IL'KUN, G.M.

Singing Sands

"Singing" sands. Priroda 41, no. 9, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, DECEMBER 1952 [illegible]. Unclassified.

IL'KUN, G. M.

"A Study of the Biological Characteristics of Acclimitization and Growth of Common Pines on the Nizhnedneprov Sands." Cand Biol Sci, Kiev State U, Kiev, 1953. (RZhBiol, No 6, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

IL'KUN, G.M.

Moisture exchange between sand and peat. Dop.AN URSR no.1:88-90 '56. (MLRA 9:7)

1.Institut lisu AN URSR.Predstaviv diysniy chlen AN URSR P.S. Pogrebnyak.
(Soil moisture)

K.

USSR/Forestry - Forest Crops.

Abs Jour : Ref Zhur - Biol., No 15, 1958, 68045

Author : Il'kun, G.M.

Inst : Forestry Institute of the Academy of Science UkSSR.

Title : An Effective Method for Afforesting Sands.

Orig Pub : Kolgospnik Ukraini, 1956, No 6, 43-44.

Abstract : A description is given of a peat-nest method of planting pines on the lower Dniepr sands developed by the Forest Institute of the UkSSR Academy of Science which ensures a sharp rise in the number of trees which survive and improvement in the growth of the seedlings. In the peat-nest method 30% less moisture is used up in creating k gram of dry mass than when the pines are planted in nests without peat. In the peat nests the root systems develop more powerfully in both horizontal and vertical directions,

Card 1/2

AUTHOR: POGREBNYAK,P.S., Member of the Academy of Science of the Ukrainian SSR, IL'KUN,G.M., SOLOPKO, A.A. PA - 3375

TITLE: The Registration of Water Expenditure by Forests with the Help of the Evaporation Gradient. (Uchet rashkoda vlagi lesom po gradientu isparyaemosti, Russian)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 2, pp 454 - 457 (U.S.S.R.)

ABSTRACT: In soil science, in the physiology of plants, and in forestry two methods of registering the transpiration of wood plants have come into use:
1) an indirect one - the ground balance method (Vysotskiy) and
2) a direct, physiological one (Ivanov).
Although they are sufficiently exact and the difference of their results does not exceed ± 5 %, they are technically complicated and require too intense manipulation. The recently elaborated gradient measuring of the diffusion transformation of water vapor and the determination of the coefficient of the turbulent diffusion were not satisfactory. The last mentioned author suggested taking the evaporation capacity in form of an exponent which integrates the factors causing the evaporation as basis of the gradient method instead of the specific humidity and of the coefficient of the turbulent diffusion. The elementary case

Card 1/3

BDV/21-59-8-22/26

30 (1)

AUTHOR: Il'kun, H. M. (Il'kun, G. M.)

TITLE: Effect of Turfing of Sand on the Development of Pine Roots in Depth

PERIODICAL: Dopovidi Akademii nauk Ukrains'koi RSR, 1959, Nr 8, pp 908 - 911 (USSR)

ABSTRACT: This article covers results of field experiments conducted in order to clear up the reasons of a better growth of the root system of pines in turfed plots. These experiments enabled investigation of the intensity of the growth of roots and their ability to penetrate through sands of various density. It has been stated that both the intensity of growth and the direction of the root system depends on the degree of friability and fertility of the sand. Artificial increase of sand fertility by means of turfing speeds up the growth of the above ground part of the pine by 3 - 5 times. The growth of the roots is speeded up accordingly. During the experimental period lasting from May to August the roots of pines planted in poor eolian sand increased by 3 - 4 cm in

Card 1/3

Effect of Turfing of Sand on the Development of Pine Roots in Depth

length, penetrating through a layer of sand with a density of 1.63 g per cubic cm. The length of pine roots growing on a turfed sand constituted 10 - 12 cm. In this case, the roots penetrated through a sand layer with a density of 1.66 - 1.69 g per cubic cm. The results of the experiments prove that the intensity of the growth of pine roots and their ability to penetrate through dense sand layers depends directly on providing the pine with moisture and with nutrition elements. Artificial increase of the fertility of sandy soils is, however, insufficient for attaining root growth in an alluvial horizon of sandy soils densified and cemented by colloidal particles. In this instance, deep tillage will be essential. The growth of pine roots in cans filled with fine-grain sand with a density of 1.66 g per cubic cm is shown by a figure: a) planted on a plot fertilized with turf, b) planted on a plot without a fertilizer.
There is 1 figure and 7 Soviet references.

ASSOCIATION: Botanicheskiy sad AN USSR (Botanical Garden of the AS of UkrSSR)

IL'KUN, G.M. [Il'kun, H.M.]

Causes of the drying of hornbeam in Podolian forests and measure for their elimination. Visnyk Bot. sada AN URSR no. 2:61-65 '60.
(MIRA 14:4)

(Podolia—Hornbeam—Diseases and pests)

IL'KUN, G.M. [Il'kun, H.M.]

Conference of workers of Ukrainian botanical gardens. Dop. AN URSR no.3:399-404 '60. (MIRA 13:7)
(Ukraine--Botany--Congresses)

IL'KUN, G.M. [Il'kun, H.M.]

Transpiration and thermal conditions in one-year-old filbert, pistachio, and almond seedlings in Kiev Province. Trudy Bot. sada AN URSR 7:30-39 '60. (MIRA 14:4)
(Kiev Province—Nuts) (Kiev Province—Plants—Transpiration)

ZAGAYKEVICH, N.K., kand. sel'skokhoz. nauk; IL'KUN, G.M., kand. biolog. nauk; POGREBNYAK, P.S., akademik; RUDNEV, D.F., prof., doktor biolog. nauk; FLOROVSKIY, A.M., kand. sel'skokhoz. nauk [deceased]; BREDIKHIN, A.M., red.; TRUKHINA, O.N., tekhn. red.

[New methods for the afforestation of rolling sands] Novye sposoby obleseniia bugristykh peskov. By N.K.Zagaikevich i dr. Moskva, Gos. izd-vo sel'khoz. lit-ry, 1961. 216 p. (MIRA 14:8)

1. AN Ukrainskoy SSR (for Pogrebnyak)
(Afforestation) (Sandy soils)

KONDRATYUK, Ye.M.[Kondratiuk, IE.M.], otv. red.; ZOSIMOVICH, V.P., [Zosymovych, V.P.], red.; MAKAREVICH, V.A.[Makarevych, V.A.], red.; POPOV, V.P., red.; RUBTSOV, L.I., red.; SOKOLOVSKIY, O.I.[Sokolovs'kyi, O.I.], red.; IL'KUN, G.M.[Il'kun, H.M.], red.; KOKHNO, M.A., red.; ANDRIYCHUK, M.D.[Andriichuk, M.D.], red.izd-va; TURBANOVA, N.A., tekhn. red.

[Biological problems of acclimatized plants] Pytannia biologii aklimatyzovanykh roslyn. Kyiv, 1963. 90 p. (MIRA 16:7)

1. Chlen-korrespondent AN Ukr.SSR (for Zosimovich).
(Ukraine—Plant introduction)

IL'KUN, G.M. [Il'kun, H.M.]

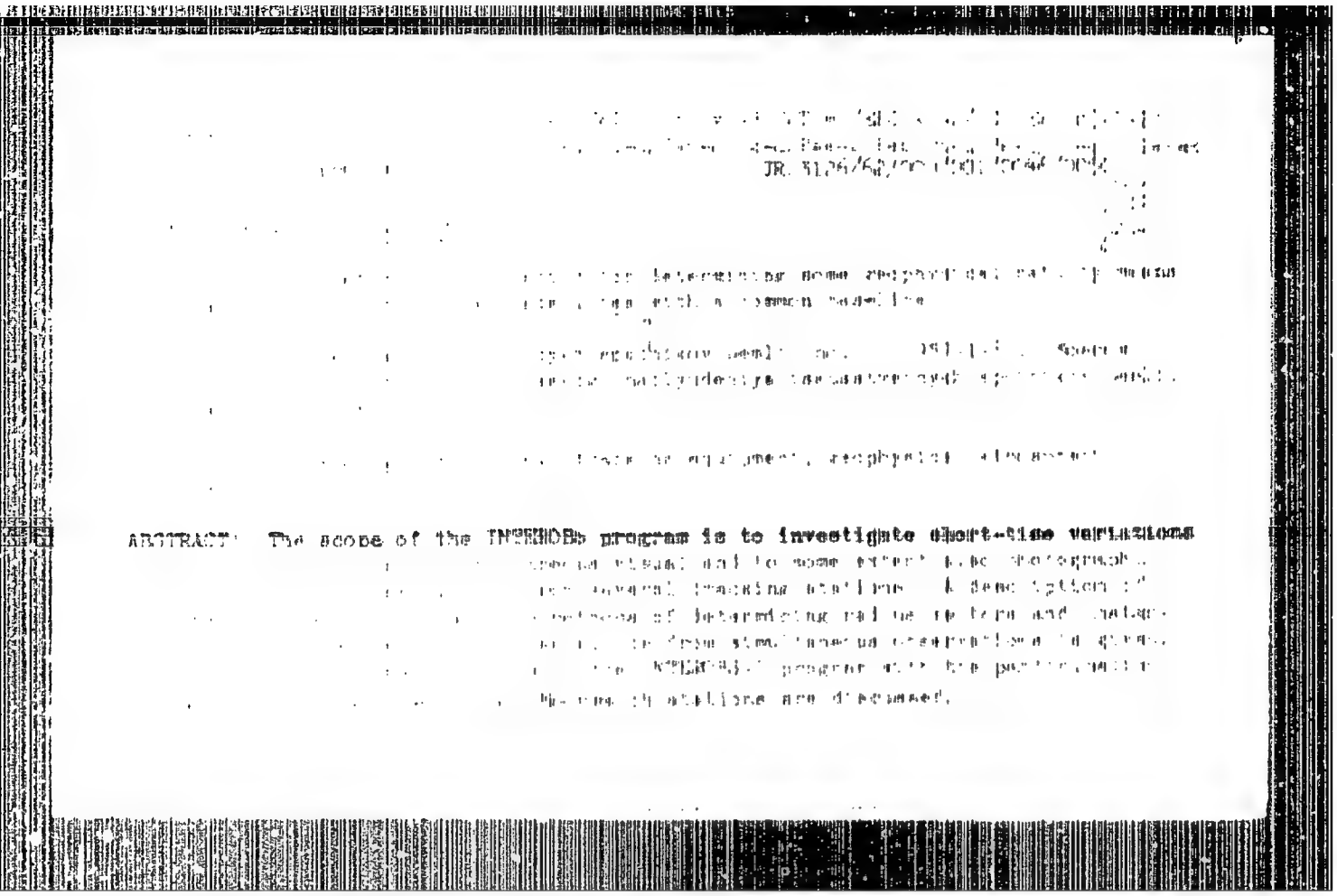
Dynamics of the optical properties of leaves. Ukr. bot. zhur. 21 no.1:40-51 '64. (MIRA 17:3)

1. Tsentral'nyy respublikanskiy botanicheskiy sad AN UkrSSR.

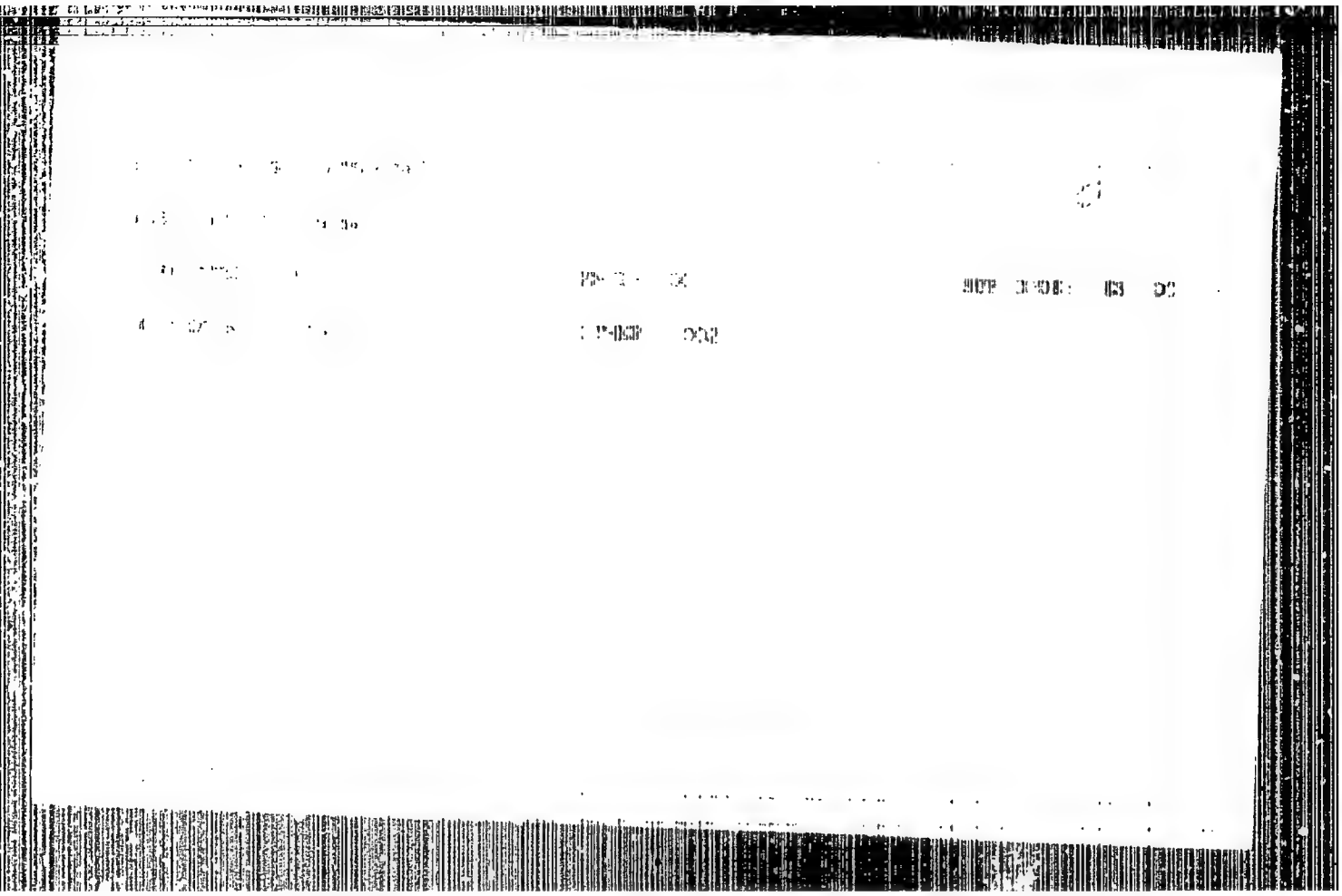
IL'KUH, S., inzh.

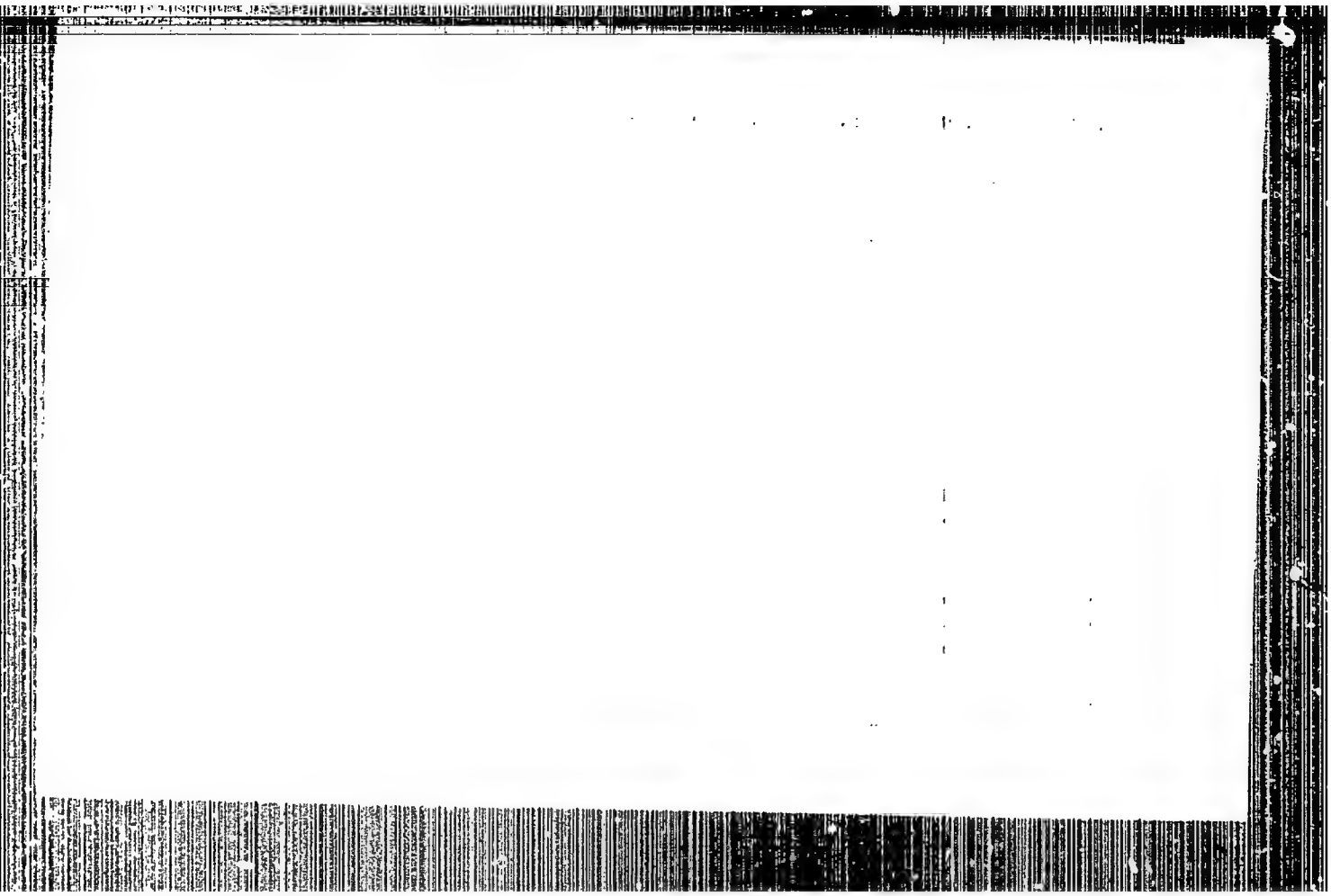
Mechanical cable-layer. Znan.ta pratsia no.7:14 Jl '60.
(MIRA 13:8)

(Cables)

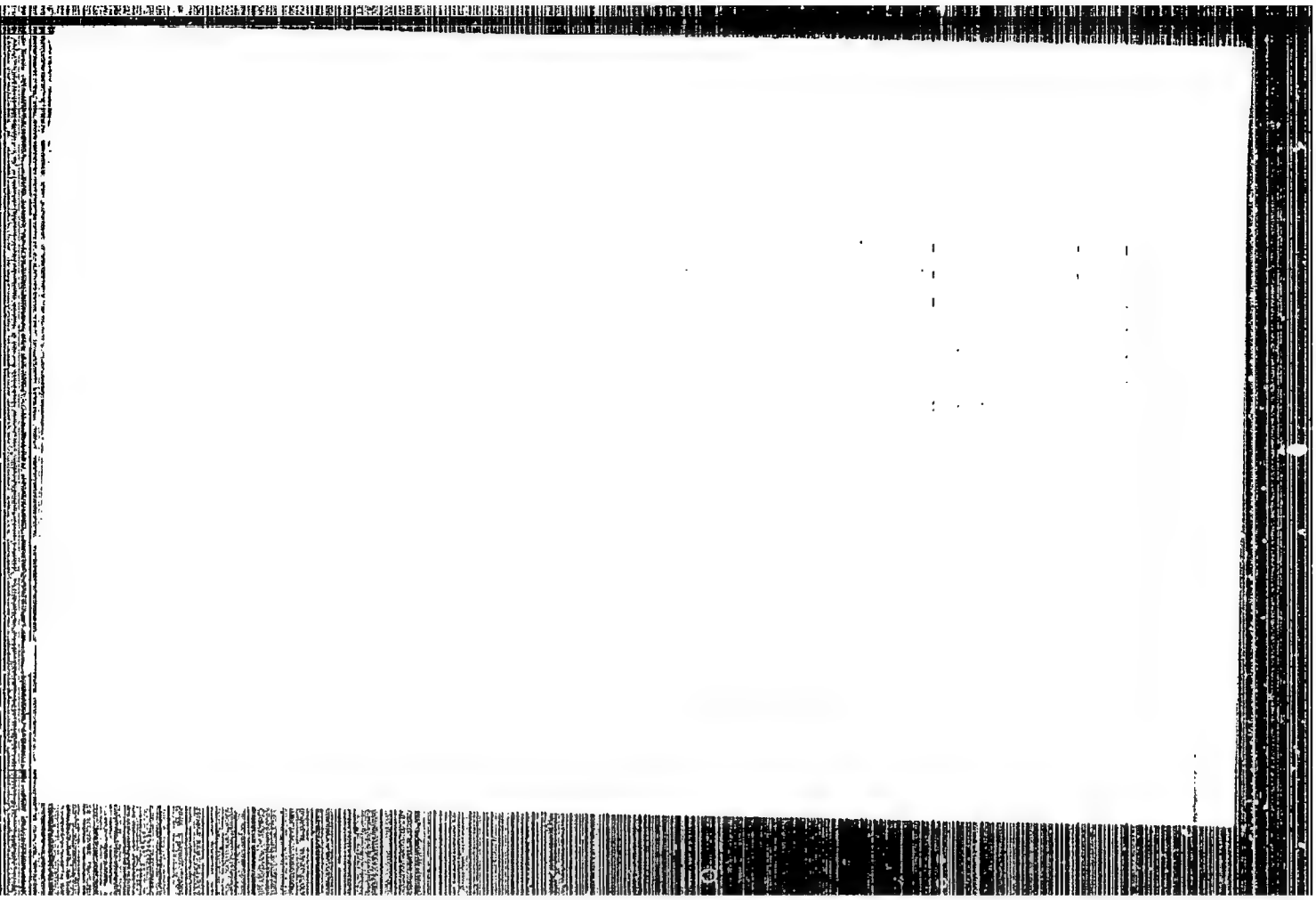


ABSTRACT: The scope of the INTERCOM program is to investigate short-time variations

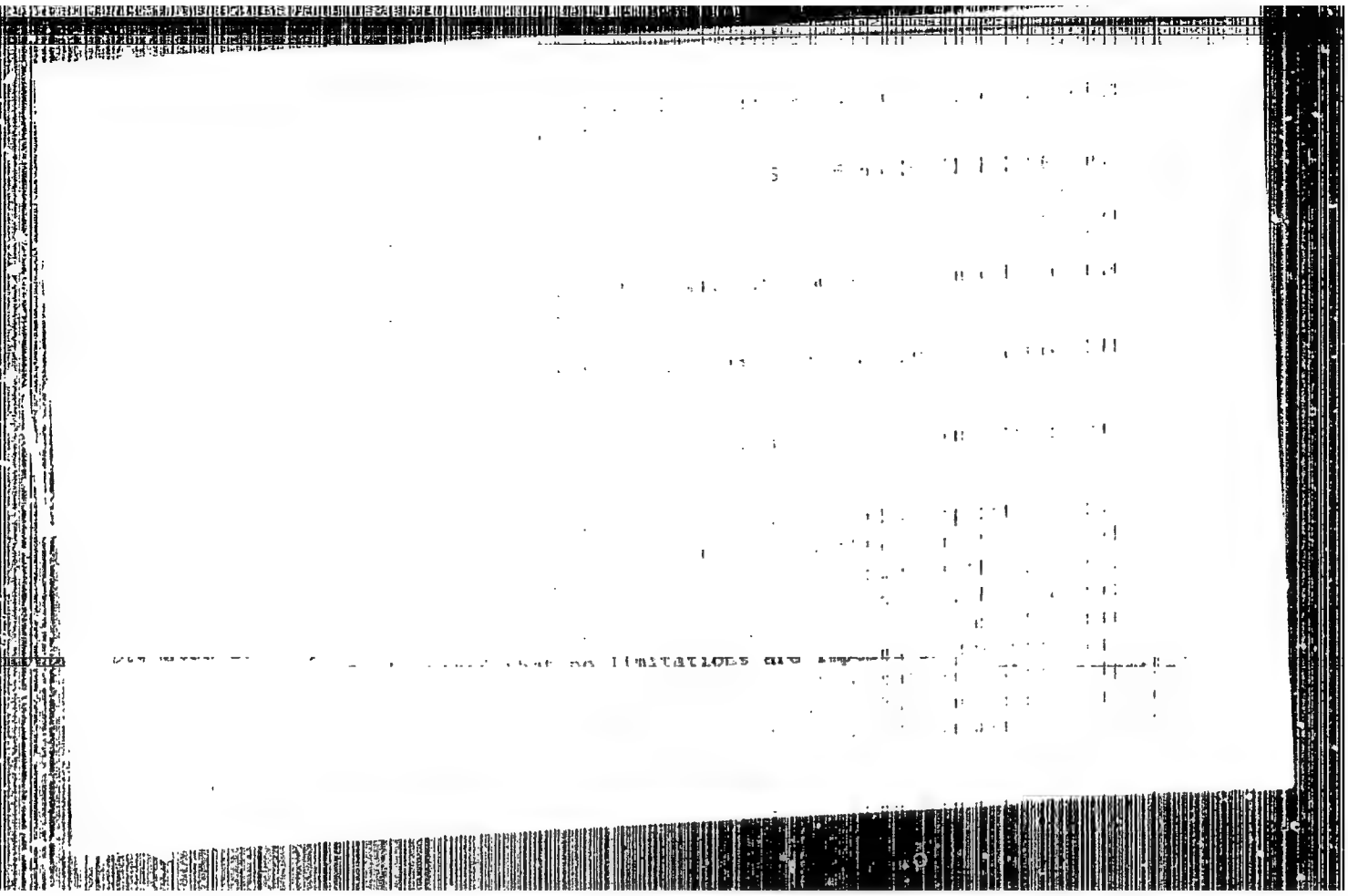


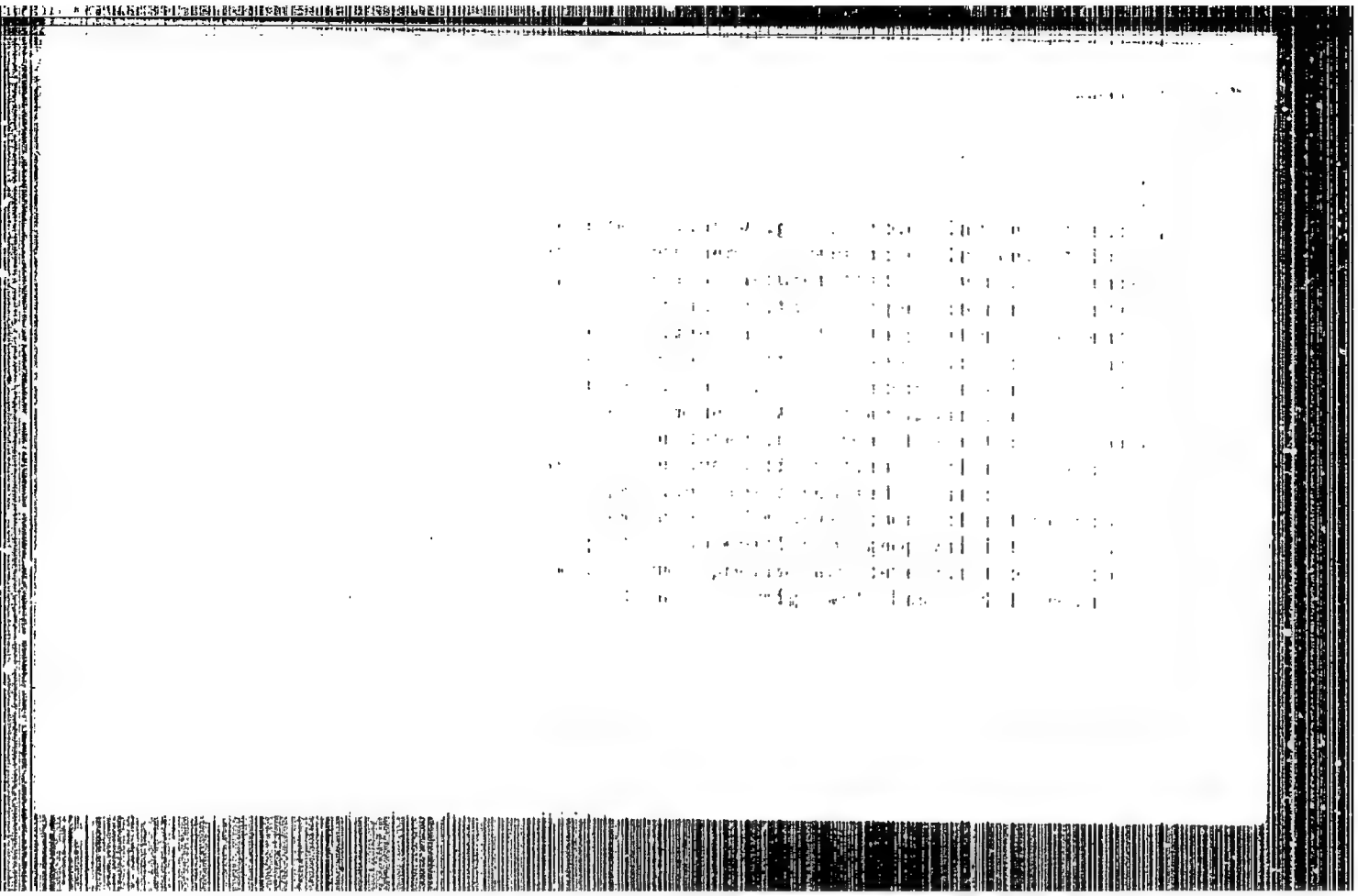


APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618520004-5"



APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618520004-5"





BR

S/0026/64/000/004/0083/0085

ACCESSION NR: AP4033778

AUTHOR: Ill, M.

TITLE: Artificial satellites and atmospheric density

SOURCE: Priroda, no. 4, 1964, 83-85

TOPIC TAGS: atmospheric density, geophysics, geodesy, artificial earth satellite, satellite orbit, satellite orbital element, satellite observation

ABSTRACT: The "Interobs" program is a cooperative effort between the USSR, Czechoslovakia, Rumania, Bulgaria, German Democratic Republic, Poland and Hungary for observation of artificial earth satellites. The network consists of 21 stations; the coordination center is in Hungary, at the Baja observatory. The stations are informed of the expected satellite coordinates by telegraph from the "Kosmos" computation center. The stations compute the orbital elements in the following second intervals of each minute: 0-5, 15-20, 30-35, 45-50. The article includes a general discussion of the elementary procedures of satellite observations and explains why information must be received on real orbits in contrast to theoretical orbits. It is noted that data on the difference between

Card 1/2

ACCESSION NR: AP4033778

computed and theoretical orbits can be used in determining the figure of the earth and atmospheric density. The significance of the earth's flattening and atmospheric resistance as they affect changes of orbital parameters is described very briefly. Changes of the semi-major axis and eccentricity which occur under the influence of atmospheric resistance and which are proportional to atmospheric density can be used to compute density itself. It has been found that atmospheric density can have local values differing from the mean by as much as 1200% and these differences in many cases have a periodic variation. Measurements show that solar activity has an important influence on atmospheric density. Orig. art. has: 2 figures.

ASSOCIATION: Observatoriya Bayya (Baja Observatory)

SUBMITTED: 00 DATE ACQ: 07May64 ENCL: 00

SUB CODE: AS NO REF SOV: 000 OTHER: 000

Card 2/2

ACC NR: AP6018712 SOURCE CODE: HU/0036/66/073/005/0297/0305

AUTHOR: Ill, Marton

ORG: none

TITLE: Hungary's role in satellite tracking

SOURCE: Magyar tudomany, v. 73, no. 5, 1966, 297-305

TOPIC TAGS: satellite tracking, satellite tracking camera, optic tracking, photoelectric tracking, tracking photography, tracking telescope, astronomic geodesics, photometry, spacecraft tracking station, timing device, astronautic conference, atmospheric density/ NAFA-3c/25 satellite tracking camera, TZK tracking telescope, SBG 420.500.760 tracking telescope

ABSTRACT: Tracking activities in Hungary are directed by the Astronomers' Committee of the Hungarian Academy of Sciences and by the Earth Satellite Tracking Subcommittee, and are supported by the Soviet Academy of Sciences. Four satellite tracking stations operate in Hungary: No. 1111 Budapest; No. 1112 Szombathely; No. 1113 Baja; and No. 1114 Miskolc. They work in connection with the following computer centers: COSMOS, Moscow; Computer Center of the Academy of Sciences of the German Democratic Republic, Potsdam; Computing Center of the Polish Academy of Sciences, Warsaw; Space Research Center Satellite Orbits Group, Slough (Great Britain); Smithsonian Astrophysical Observatory, Cambridge (USA); and the Independent Tracking Coordination Program, Washington.

All four stations employ the optical tracking method, but only Baja is equipped for photographic tracking. The expense and scarcity of measuring instruments are still problems. Instruments used for optical tracking need to have a field of view of at least 8 to 10° and highly accurate timing. Many of the instruments used in Hungary had to be altered to meet

Card 1/3

qualifications. For timing accuracy Miskolc uses a continually running stop watch, the reading of which is photographed during measurements. With this method precision of 0.1—0.2 sec can be achieved. In Budapest and Baja an electromagnetic chronograph records time through synchronized contact with the photographic equipment used for position determination; the error is less than 0.05 sec. Baja also has a glow-discharge lamp chronograph with no moving parts. The chronograph registers time on film and permits measurements accurate to 0.1 msec. In Szombathely a frequency reference gage accurate to 10^{-8} and a digital time-interval meter accurate to 0.1 msec are used.

All four stations use adapted TZK-type telescopes for optical tracking. Thye have a field of view of 8° and about 8.5 magnitude. The instruments were equipped with a photographic registering device for greater precision. The determination of satellite positions with these instruments reaches an accuracy of 3 to 6 min, which fulfills the requirements of COSPAR.

Previously Baja used a domestic camera of f 1:5.6 speed and f 50-cm focal length for photographic tracking. This camera had only limited use, and in 1964 the Soviet Academy of Sciences gave Baja a NAFA-3c/25 type camera with 1:2.5 speed, 25-cm focal length, a field of view of 40 to 50°, and an error of 4 to 6 sec. Accurate timing is achieved by a Rohde Schwartz transistorized quartz watch with a chronograph. However, the NAFA camera has a relatively small magnitude (3—3.5). At present a photoelectric (nearly monochromatic) spectrophotometer is being built at Szombathely which will permit 2-channel photometry.

L 42150-66

ACC NR: AP6018712

Budapest, Miskolc, and Baja participate in the INTEROBS program; the Baja tracking station also takes part in synchronous photographic observation of the Echo satellites. A total of 7986 position determinations were made in Hungary during 1965, 1442 of these by photographic tracking. Baja initiated the INTEROBS program a few years ago and at present serves as its coordination center. The main objective of this program refers to determinations of the sudden density change taking place in the upper atmosphere. Because Hungarian scientists are so deeply involved in this program, Hungary was chosen for an international meeting on the use of satellites in scientific research held 14-18 October 1965. Hungarian scientists E. Illes and I. Almar were able to demonstrate on a satellite 60,053 sudden changes in acceleration which they related to changes in solar activity. The other subject of great interest at the meeting was the application of photographic tracking, especially in geodesy. The satellite geodetic method was organized during 1963-1964, with the Baja tracking station participating. The first analyses of the results were presented at the meeting and were considered encouraging. It is expected that the error in position determination will not exceed 10 m in 3000 km. So far Hungarian scientists have contributed only observations, not analyses to the geodesy program. A Hungarian astrogeodetic work group is to be formed in the near future. Photometry is considered a neglected field in satellite tracking; only two papers were read on the subject. It was revealed that photometric observations have established a connection between the rotating periods of satellites and solar activity. During the meeting a representative of the Zeiss Works announced that the new SBG 420.500.760 satellite-tracking telescope will be introduced in October 1966. It is expected that the error in observations will be reduced to 1"-2". Orig. art. has 1 table. [ATD PRESS: 5010-F]

SUB CODE: 17,14/ SUBM DATE: none/ ORIG REF: 001

Card 3/3 MLP

ILLARIONOV, A.A.

Structural characteristics of ferruginous quartzites in the Mikhaylovka deposit of the Kursk Magnetic Anomaly. Mat. po geol. i pol. iskop. tsentr. raion. evrop. chasti SSSR no.2:127-139 '59.
(MIRA 13:9)

1. Gornogeologicheskaya stantsiya Instituta gornogo dela AN SSSR.
(Kursk Magnetic Anomaly--Quartzites)

ILLARIONOV, A. A. Cand Geol-Mineral Sci -- (diss) "Mineralogy and petrography of the iron quartzites of the Mikhailovsk ore deposits of the Kursk Magnetic anomaly," Gubkin, 1960, 20 pp, 250 copies (Affiliate of the Institute of Mining, AS USSR. Kiev State U. im T. G. Shevchenko) (KL, 48/60, 113)

ILLARIONOV, A.A.

Magnetite in iron ores of the Kursk Magnetic Anomaly. Sbor. nauch. trud. KGRI No.20(3):8-15 '63. (MIRA 16:9)

ILLARIONOV, Aleksey Alekseyevich; KAIGANOV, M.I., otv. red.; NIKOLAYEVA, I.N., red.

[Petrography and mineralogy of ferruginous quartzites in the Mikhaylovskoye deposit of the Kursk Magnetic Anomaly] Petrografiia i mineralogiia zhelezistykh kvartsitov Mikhailovskogo mestorozhdeniia Kurskoi magnitnoi anomalii. Moskva, Nauka, 1965. 162 p. (MIRA 18:6)

ILLARIONOV, Iosif Kuz'mich.

The problem of petroleum deposits in the Volga Region oil the Uvlym-sum watershed. Moskva, Gos. nauch.-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry, 1947. 191 p. maps. (48-20423)

.E276.158

ILLARIONOV, I.K.

I-12

USSR/Chemical Technology - Chemical Products and Their Application. Treatment of solid mineral fuels

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12853

Author : Illarionov I.K.
Inst : Voronezh University
Title : Concerning the Problem of Production of Low-Sulfur Content Hydrocarbon and Other Components on Thermal Treatment of Bituminous Shale

Orig Pub : Tr. Voronezhsk. un-ta, 1955, 39, 107-119

Abstract : High sulfur content Chuvash bituminous shale (Sh) with a total S content of 7 to 9% and an organic to mineral S ratio ~1:1, were subjected to a two stage processing: during the first, the temperature was increased at different rate, up to 185°, during the second up to 350°. Vigorous evolution of H_2S started at 130° and continued up to 185°, which is being correlated with decomposition of kerogen at this temperature. Following this stage a

Card 1/3

ILLARIONOV, I.K.

Formation of the density of underground water as related to its isotopic composition and concentration of salts in solution. Trudy Lab. gidrogeol.probl. 16:48-60 '58. (MIRA 12:2)

1. Voronezhskiy gosudarstvennyy universitet.
(Water, Underground—Density)

ILLARIONOV, I.K.

Role of subterranean waters in the formation of supergene pyrite in oil shales of the Kashpir deposit. Trudy VGU 50:61-67 '59. (MIRA 13:12)

(Kashpir region--Pyrites)
(Water, Underground)

ILLARIONOV, I.K.

Change in the quantity of carbonates, iron sulfides, and other components in combustible shales in supergene processes. Izv.vys. ucheb.zav.; geol.i razv. 3 no.4:93-102 Ap '60. (MIRA 13:7)

1. Voronezhskiy gosudarstvennyy universitet.
(Shale)

ILLARIONOV, I.K.

Behavior of iron sulfides in combustible shales in thermal processes. Izv.vys.ucheb.zav.;geol.i razv. 4 no.7:104-109 Jl '61. (MIRA 14:8)

1. Voronezhskiy gosudarstvennyy universitet.
(Iron sulfides) (Oil shales)

0640
SOV/107-59-5-35/51

AUTHORS: Fadin, V., Toptunov, V., Illarionov, K.

TITLE: A Transistorized LF Amplifier

PERIODICAL: Radio, 1959, Nr 5, p 46 (USSR)

ABSTRACT: A three-stage, four-transistor amplifier with a 2-watt output is described. The frequency pass band ranges from 100 to 13,000 cycles at an irregularity of 9 db. The amplifier has a power consumption of 12 watts at 220 or 110 volts ac. There are two pre-amplifier stages and one push-pull output stage. The first pre-amplifier stage consists of P1Ye germanium junction transistor with a grounded collector. The second pre-amplifier stage consists of one P1Ye transistor with a grounded emitter, facilitating a simple matching of this stage with the preceding one and providing great amplification. The output stage consists of two P3V transistors with grounded emitters. The coupling between the pre-amplifier stages and the output

Card 1/2

ILLARIONOV, N.G., inzh.

Determine causes of accidents properly. Bezop.trudа v prom. 6 no.12:12-14 D '62. (MIRA 15:12)

1. Promenergo.

(Mine accidents)

ILLARIONOV, N.K.

Apparatus for increasing the performance of the KPM-1 blasting machine. Gor. zhur. no.2:76-77 F'64. (MIRA 17:4)

1. Sredazenergopromavtomatika, g. Tashkent.

ILLARIONOV, N.V.

Digger mounted on the D-162 ripper. [suggested by N.V. Illarionov]. Rats. i izobr. predl. v stroi. no. 4:32-34 '57. (MIRA 11:8)
(Excavating machinery)

USSR/Farm Animals - Wild Animals. Q-6

Abs Jour : Ref Zhur - Biol., No 1, 1958, 2623

Author : S.A. Illarionov, A.N. Nikitina
Inst :
Title : Early Rejection and Removal of Females from the Original Group, and the Preliminary Selection of Young Foxes.

Orig Pub : Karakulevodstvo i zverevodstvo, 1956, No 5, 34-36

Abstract : On the basis of the experience gained at the Biryulinskyy zverosovkhoz [sovkhoz dealing with breeding of wild life animals], it is recommended that as soon as the young foxes are born, the mothers with any deformity of reproduction organs should be removed from the group. According to the author, the pedigreed young stock, represented by well developed pups should be removed soon after birth. Later, the selection is made according to the health of the pups, their development, the degree of shedding of the summer fur, the coloring of the fur, and the quality of a formed winter coat.

Card 1/1

S/226/62/000/006/013/016
E073/E435

AUTHORS: Tsarev, B.M., Illarionov, K.V.

TITLE: Optical constants of LaB_6 and CeB_6

PERIODICAL: Poroshkovaya metallurgiya, no.6, 1962, 85-88

TEXT: Optical properties of LaB_6 and CeB_6 were studied in the range of 1 to 25 μ to determine directly the energy structure, applying the method of I. Simon (Journ. Opt. Soc. Amer., v.41, 1951, 336). Reflectivity values for incidence angles of 20 and 70°C, obtained from ground, polished surfaces, showed that the reflectivity index n, depended primarily on the material and not on the surface quality. The measured values of n, the absorption index κ and the absorption coefficient A as a function of the wavelength show that LaB_6 exhibits semiconducting properties, which is evidenced by the strong dependence of the reflectivity on the incidence angle, with a minimum at λ = 15.5 μ. This is attributed to the existence in LaB_6 of a forbidden zone of finite width of 0.08 eV. CeB_6 has a high reflectivity which does not depend greatly on its incidence angle. Theory requires 20 electrons to form a complete system of wave functions of the

Card 1/3

octahedron B_6, of which boron donates only 18. Lanthanum in the hexaboride behaves as a trivalent metal and contributes three electrons to the electron orbit. Two of these are used for constructing the electron orbits of the boron; the remaining electron for each atom can form the "free electrons gas". However, due to the presence of a positive (3e) ion of the metal, this electron remains linked with the atomic residue of the metal and requires a certain finite energy ($\sim$0.08 eV) to be brought into the free state. In the case of CeB_6, quadrivalent compounds which are weakly linked with the nucleus may form. On forming a hexaboride, two of these will form stable electron orbits, whilst the remaining two will interact strongly with the quadruple-charge ions and the combination of these interactions may cause one of the electrons to be strongly linked with the nucleus, whilst the other will fall into a state corresponding to the free carrier, owing to the electron-electron interaction. Thus, the obtained data confirm the theoretical concepts of the hexaborides electron structure and give numerical values of the required parameters. There are 4 figures.
Card 2/3

Optical constants ... S/226/62/000/006/013/016
E073/E435

ASSOCIATION: Moskovskiy fiziko-tekhnicheskiy institut
(Moscow Physicotechnical Institute)

SUBMITTED: April 14, 1962

Card 3/3

S/181/62/004/009/035/045
B104/B186

The optical constants of LaB_6...

ASSOCIATION: Moskovskiy fiziko-tekhnicheskiy institut (Moscow Physico-technical Institute)

SUBMITTED: April 24, 1962

Card 2/2

PLATKOV, M.A.; ILLARIONOV, S.V.

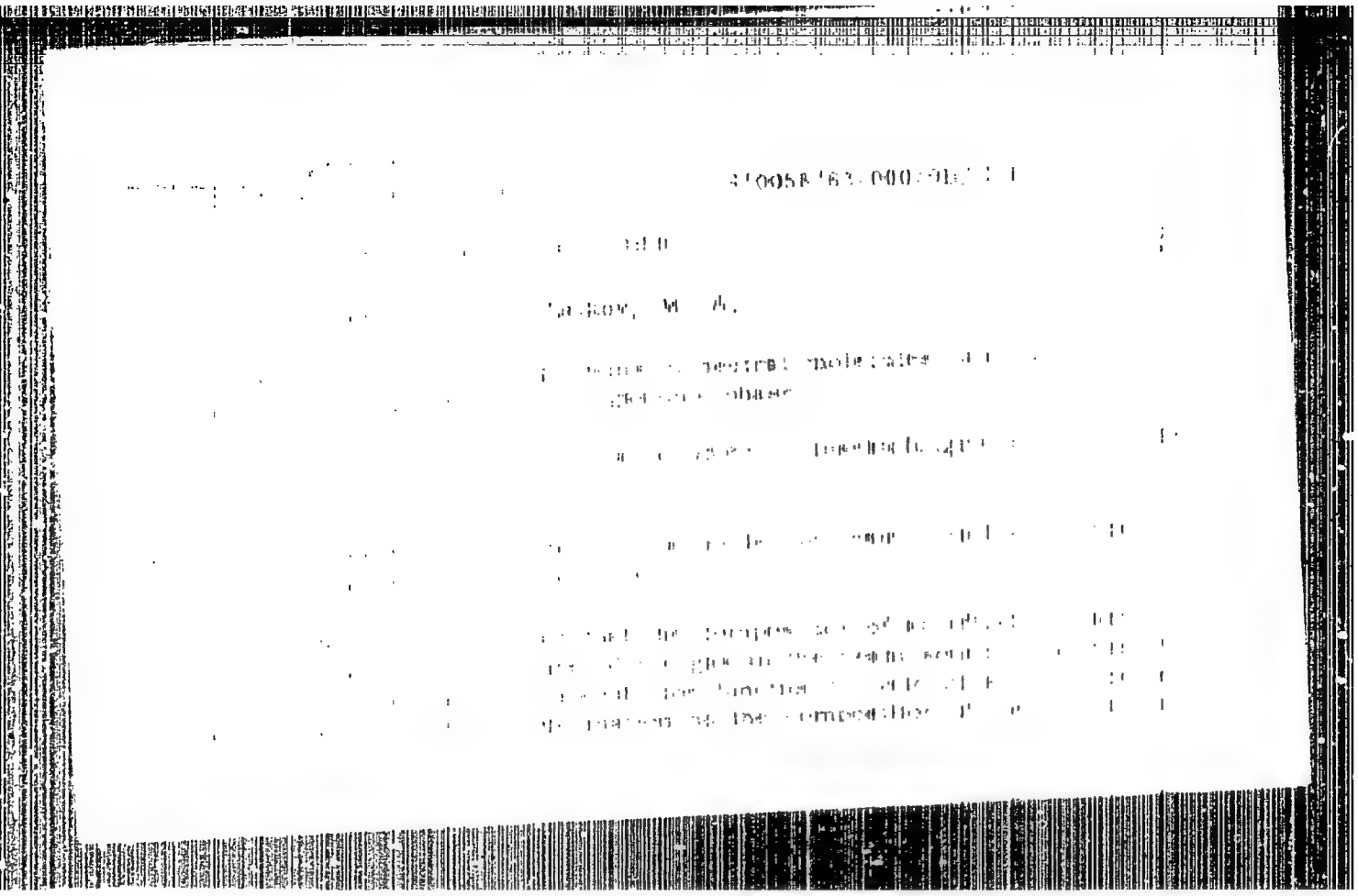
Analytic design of a mechanical selector of molecular beams.
Prib. i tekh. eksp. 7 no.2:133-136 Mr-Ap '62. (MIRA 15:5)

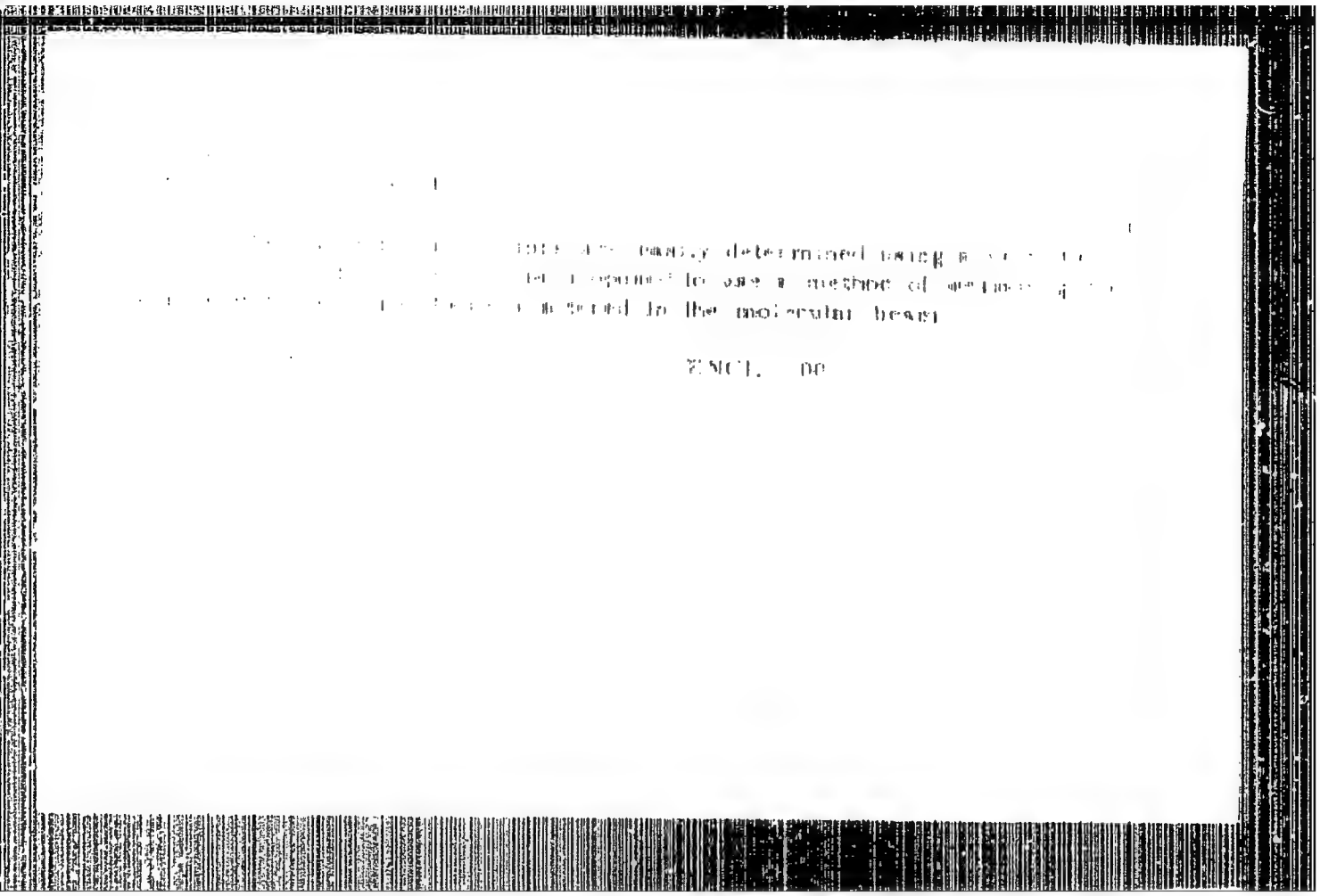
1. Moskovskiy fiziko-tekhnicheskiy institut i Nauchnyy institut po udobreniyam i insektofungisidam.
(Molecular beams)

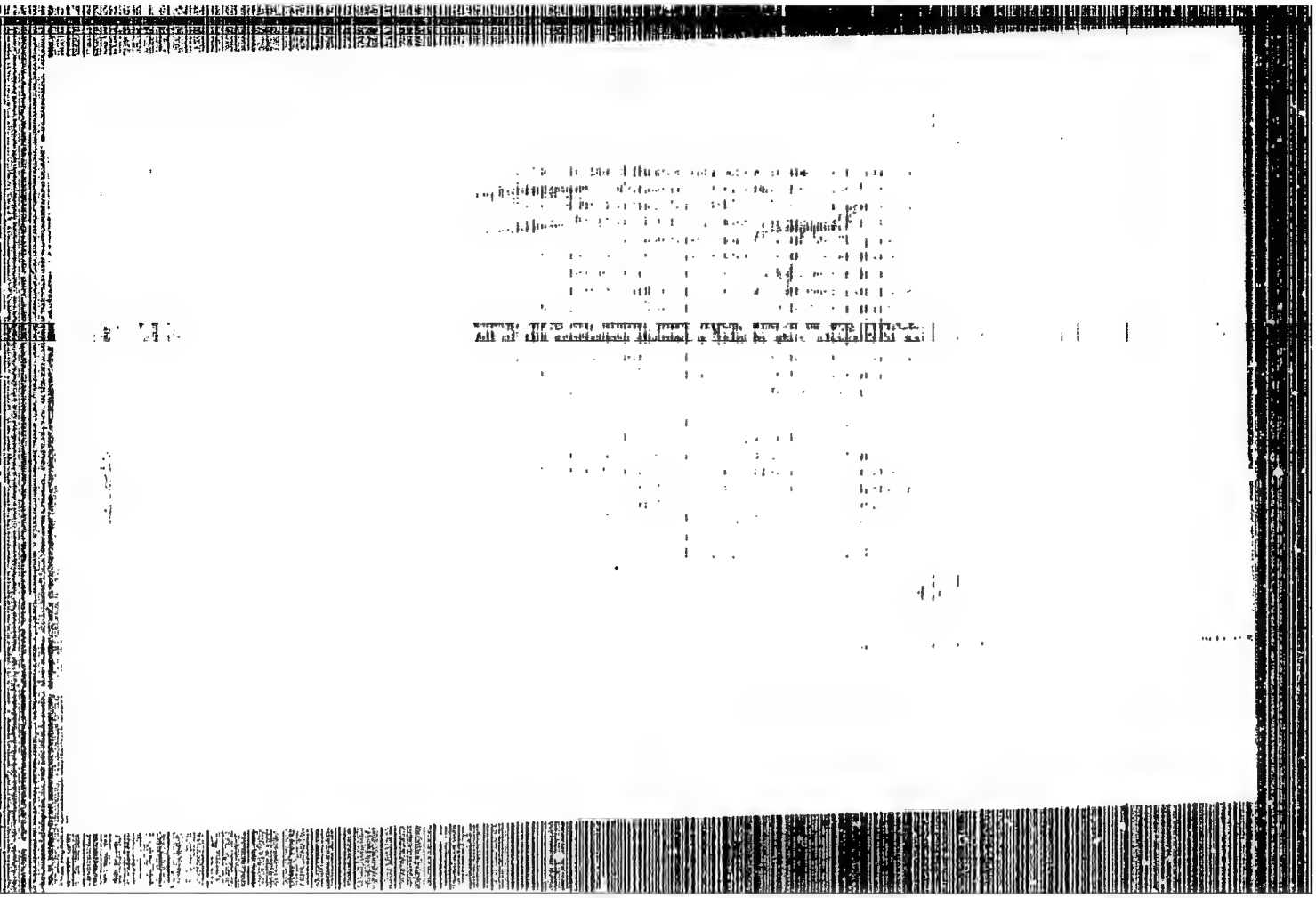
ILLARIONOV, V.V.; ILLARIONOV, S.V.; CHEREPANOVA, A.S.

Temperature dependence of the saturated vapor pressure in the case of a concurrent dissociation. Zhur.fiz.khim. 36 no.8:1787-1791 Ag '62. (MIRA 15:8)

1. Nauchno-issledovatel'skiy institut po udobreniyam i insektofungisidam imeni Samoylova.
(Vapor pressure) (Heat of dissociation)







ILLARIONOV, V.A.

ILLARIONOV, Valentin Fedorovich; LEONT'YEV, P.I., red.; FEDOSEYEVA, V.F., tekhn.red.

[Koryazhma; sketches about young builders of the Kotlas Woodpulp and Paper Combine] Koriazhma; ocherki o molodykh stroitelliakh Kotlasskogo tselliulozno-bumazhnogo kombinata. Arkhangel'sk, Arkhangel'skoe knizhnoe izd-vo, 1959. 46 p. (MIRA 14:2)

(Kotlas—Paper industry) (Building)

32687
S/040/62/026/001/002/023
D237/D304

17.3000
3.9200 (1089, 1121, 1132)

AUTHORS: Illarionov, V. F. and Shkadov, L.M. (Moscow)

TITLE: Rotation of the plane of the circular orbit of the satellite

PERIODICAL: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk. Prikladnaya matematika i mekhanika, v. 26, no. 1, 1962, 15-21

TEXT: The author considers the motion of an orbital device in a circular orbit under the action of force F, whose vector at any time lies in the plane of the horizon and is normal to velocity vector. For the case F = const., the author solves the equations of motion and shows that the trajectory is a plane curve and gives the rotation of that plane. Velocity modulus and elevation of the satellite are in this case constant. When the action of F ceases, the orbit becomes central again, but displaced with respect to the non-perturbed orbit by the angle ψ shown on Fig. 4, where 1 - initial orbit, 2- orbit under the constant action of side thrust,

Card 1/2

[illegible], V. I.

"Automatic Rain-Recorder With Forced Discharge," Meteorol. i gidrologiya, No 10, 1953, pp 50-52

The method which is employed in automatic precipitation recorders of the Bel'man system of GGI-49 for evacuating the float chamber of its water by means of an automatically operating syphon does not ensure the correct discharge of the precipitation. Data gathered in 1950 by GGI showed that the percentage of incorrect discharges of precipitation in the instruments under study exceeds 30%. Elimination of automatic discharge is inexpedient because of the excessively fine scale of the precipitation recorders and because of the increase of the dimensions of the instrument. Therefore a new type of automatic recorder is proposed with forced discharge of the precipitation after filling to a preassigned quantity. (RZhGeol, No 5, 1954)

SO: Sum No 568, 6 Jul 55

AUTHOR: Il'richov, V. I. SOV/56-58-6-17/24

TITLE: The Jet Meter - a Measuring Device for the Current Velocity and Current Direction (Struyemer - izmeritel' skorosti i napravleniya techeniya)

PERIODICAL: Meteorologiya i gidrologiya, 1958, Nr 6, pp. 49 - 53 (USSR)

ABSTRACT: For the solution of many scientific and practical problems data on the distribution of the velocities within a moving current cross section are necessary. The author describes an instrument worked out at the State Hydrological Institute (Gosudarstvennyy gidrologicheskiy institut) - the measuring instrument for the magnetic direction azimuth of the water current. The device is intended for the action in the complex with a hydrological mill (vertushka) of the type Zh- 3. By it the direction and velocity of the current are measured simultaneously. The principle of the effect of the device is based upon the measurement of the angle between the northern point of the magnetic needle and the longitudinal axis of the mill casing in a horizontal plane. This angle is measured by means of a counter of the current impulses and it is not necessary to take the mill out of the water. One impulse

Card 1/2

corresponds to 2°. The whole construction and the work of the device are described (Fig 1). The electric scheme is of other similar devices, e.g. of the level recording gauge without float of A.M.Dimakoyan and V.M.Vinogradov (UDV-1). In order to check the reliability of the instrument in action a model of it was made which yielded good results in laboratory tests. Its data were compared to compass readings (Fig 2). Furthermore the readings of the new instrument were compared to the readings of the compass casing of the marine mill (Table 1). This shows that the readings are by no means inferior to those of the marine mill. The device is convenient in action and does not demand complicated operations in the measurement of the current direction. It is not taken out of the water in this case. It can be used in turbid and contaminated water as well. A complicated auxiliary equipment for immersing it into the water is superfluous since the device can be used from a common rowboat. There are 2 figures and 1 table.

1. Water--Velocity 2. Gages--Design 3. Gages--Performance

Card 2/2

ILLARIONOV, V.I.

Experience in using the device for forced overflow in self-recording pluviometers. Trudy GGI no.70:71-75 (MIRA 11:11)
(Rain and rainfall--Measurement)

DASHKEVICH, L.L.; SURAZHSKIY, D.Ya.; USOL'TSEV, V.A.; AZHEL', M.Ye.; BOZHEVIKOV, S.N.; VORZHENEVSKIY, N.S.; MANUYLOV, K.N.; GLAZOVA, Ye.F.; KARPUSHA, V.Ye.; PROTOPOPOV, N.G.; SHADRINA, Ye.N.; IGRUNOV, V.D.; NECHAYEV, I.N.; BESPALOV, D.P.; ILLARIONOV, V.I.; GLEBOV, F.A.; GLAZOVA, Ye.F.; KAULIN, N.Ya.; GORYSHIN, V.I.; GAVRILOV, V.A.; TIMOFEYEV, M.P., retsenzent; YEFREMYCHEV, V.I., retsenzent; KRASOVSKIY, V.B., retsenzent; V'YUNNIK, A.P., retsenzent; STERNZAT, M.S., otv. red.; RUSIN, N.P., otv. red.; YASNOGORODSKAYA, M.M., red.; VOLKOV, N.V., tekhn. red.

[Instructions to hydrometeorological stations and posts] Nastavleniia gidrometeorologicheskim stantsiiam i postam. Leningrad, Gidrometeoroizdat. No.3. Pt.3. [Meteorological instruments and observation methods used on a hydrometeorological network] Meteorologicheskie pribory i metody nabliudenii, primeniaemye na gidrometeorologicheskoi seti. 1962. 295 p. (MIRA 15:5)

(Continued on next card)

DASHKEVICH, L.L.--- (continued) Card 2.

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye gidrometeorologicheskoy sluzhby. 2. Glavnaya geofizicheskaya observatoriya Nauchno-issledovatel'skogo instituta gidrometeorologicheskikh priborov i Gosudarstvennogo gidrologicheskogo instituta (for Dashkevich, Surazhskiy, Usol'tsev, Azbel', Bozhevikov, Vorzhenevskiy, Mamylov, Glazova, Karpusha, Protopopov, Shadrina, Igrunov, Nechayev, Bespalov, Illarionov, Glebov, Glazova, Kaulin, Gorysnin, Gavrilov). 3. Komissiya Glavnogo upravleniya gidrometeorologicheskoy sluzhby pri Sovete Ministrov SSSR (for Nechayev, Usol'tsev, Timofeyev, Yefremychev, Krasovskiy, V'yunnik)
(Meteorology)

S/080/62/035/012/002/012
D444/D307

AUTHORS: Platkov, M.A., Illarionov, V.I., Kononov, V.A., Kunin, K.V. and Evenchik, S.D.

TITLE: Separation of sulfur and selenium in packed and plate columns and the efficiencies

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 12, 1962, 2620-2624

TEXT: The object of this work was to fill the lack of information on plate efficiency or the proportionality coefficient between a theoretical plate and unit height of packing. This information is needed for sulfur-selenium separation column design. The material used was sulfur containing 0.4% As, 0.03% Se, 0.02% Te, bitumen and ash; a Se-enriched variety (0.044% Se) was also used. It was found that one theoretical plate corresponds to 27 cm of packed column with a reflux number of 2.6 and 5 x 4.3 x 0.3 and 7.8 x 8.5 x 0.3 mm packing. The efficiency of columns with 'sieve' and 'bubble-cap' plates was 6.5 and 0.31, respectively. With the

Card 1/2

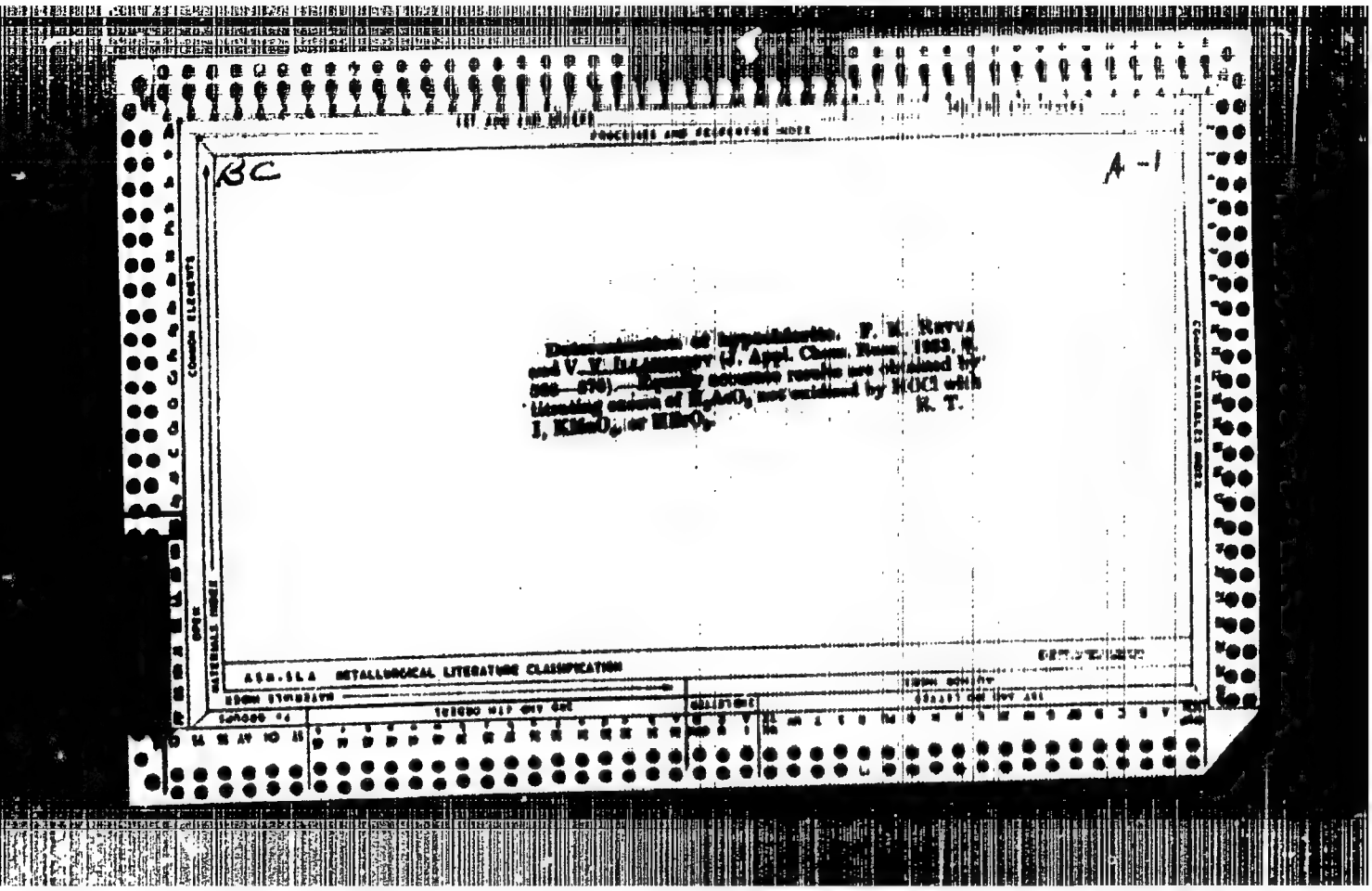
degrees of separation of sulfur and selenium obtained the tellurium goes into the distillate proportionately to the selenium, while arsenic goes into the residue. There are 2 figures and 4 tables.

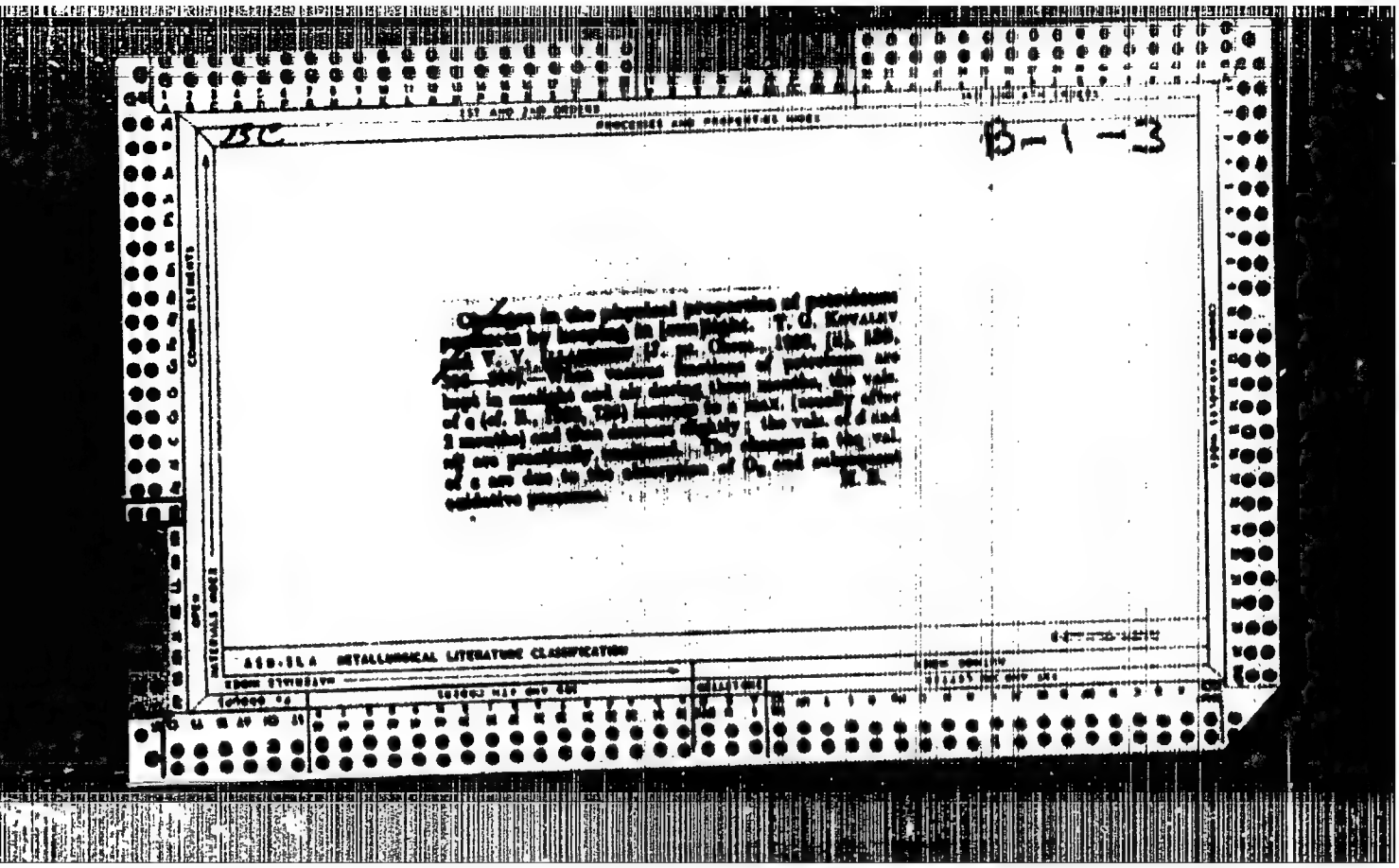
SUBMITTED: September 7, 1961

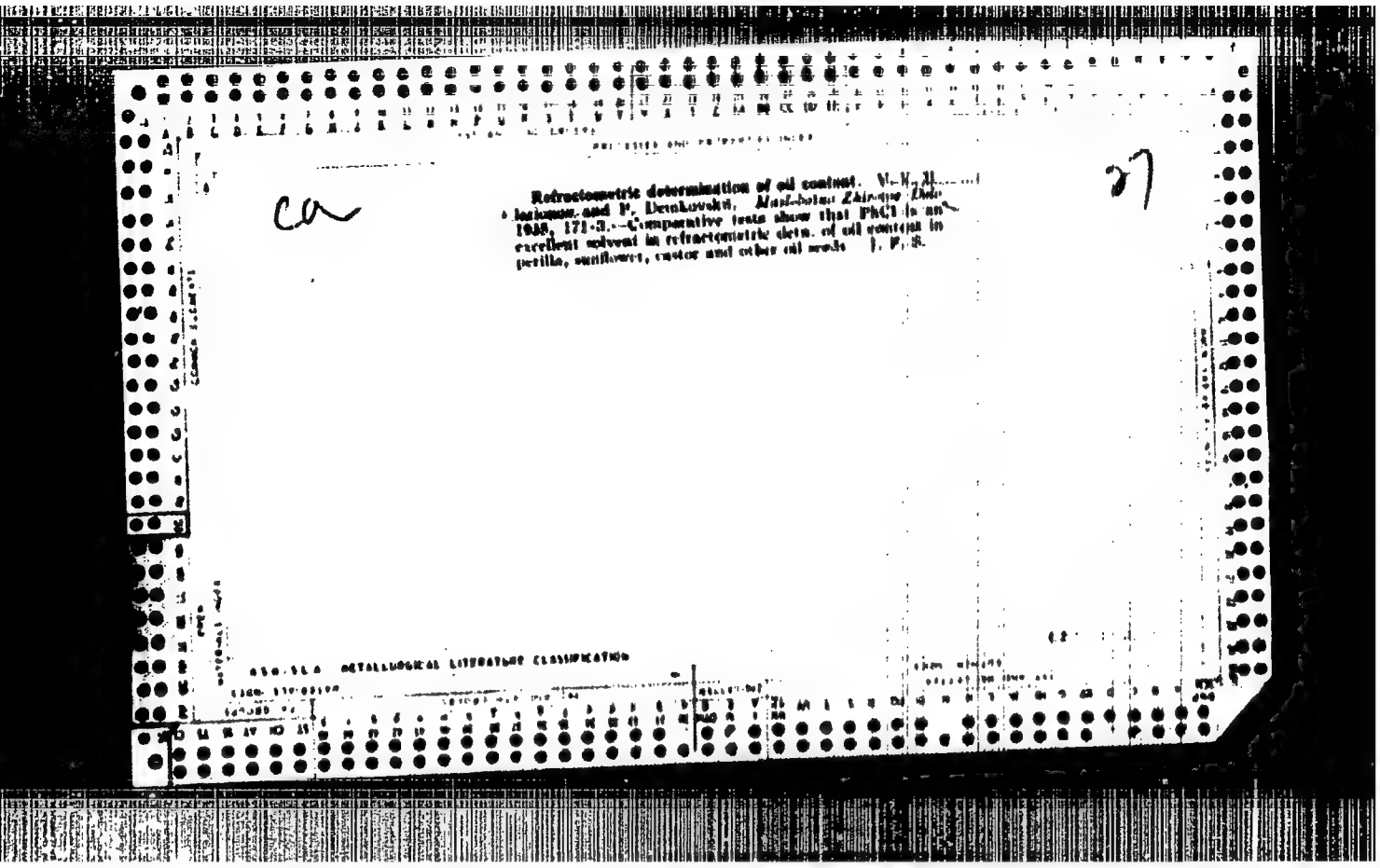
Card 2/2

VOL'FKOVICH, S.I.; akad.; ILLARIONOV, V.V.; IONASS, A.A.; MALYY, A.A. [deceased]; REMEN, R.Ye.; SHEREMETEVSKIY, A.I., red.

[Hydrothermal processing of phosphates for the production of fertilizers and feed stuffs] Gidrotermicheskaia pererabotka fosfatov na udobreniia i kormovye sredstva. Moskva, Khimiia, 1964. 170 p. (MIRA 17:12)





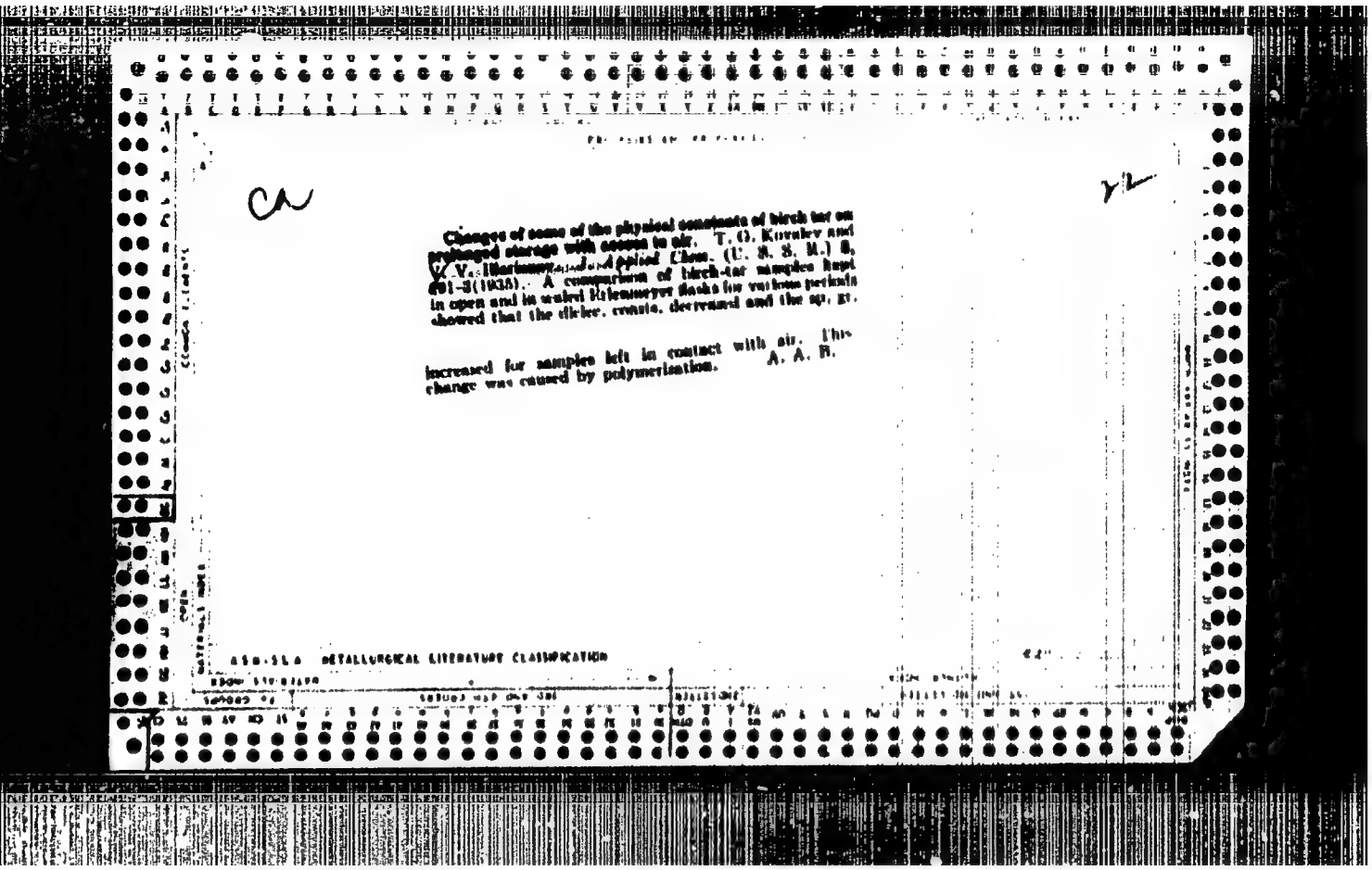


Ca

Refractometric determination of oil content. V. V. Il'...
Ivanova and P. Denisovich. *Maslobno-Zhirovoe Delo* 1938, 171-3.—Comparative tests show that PhCl is an excellent solvent in refractometric detn. of oil content in perilla, sunflower, castor and other oil seeds. J. P. S.

27

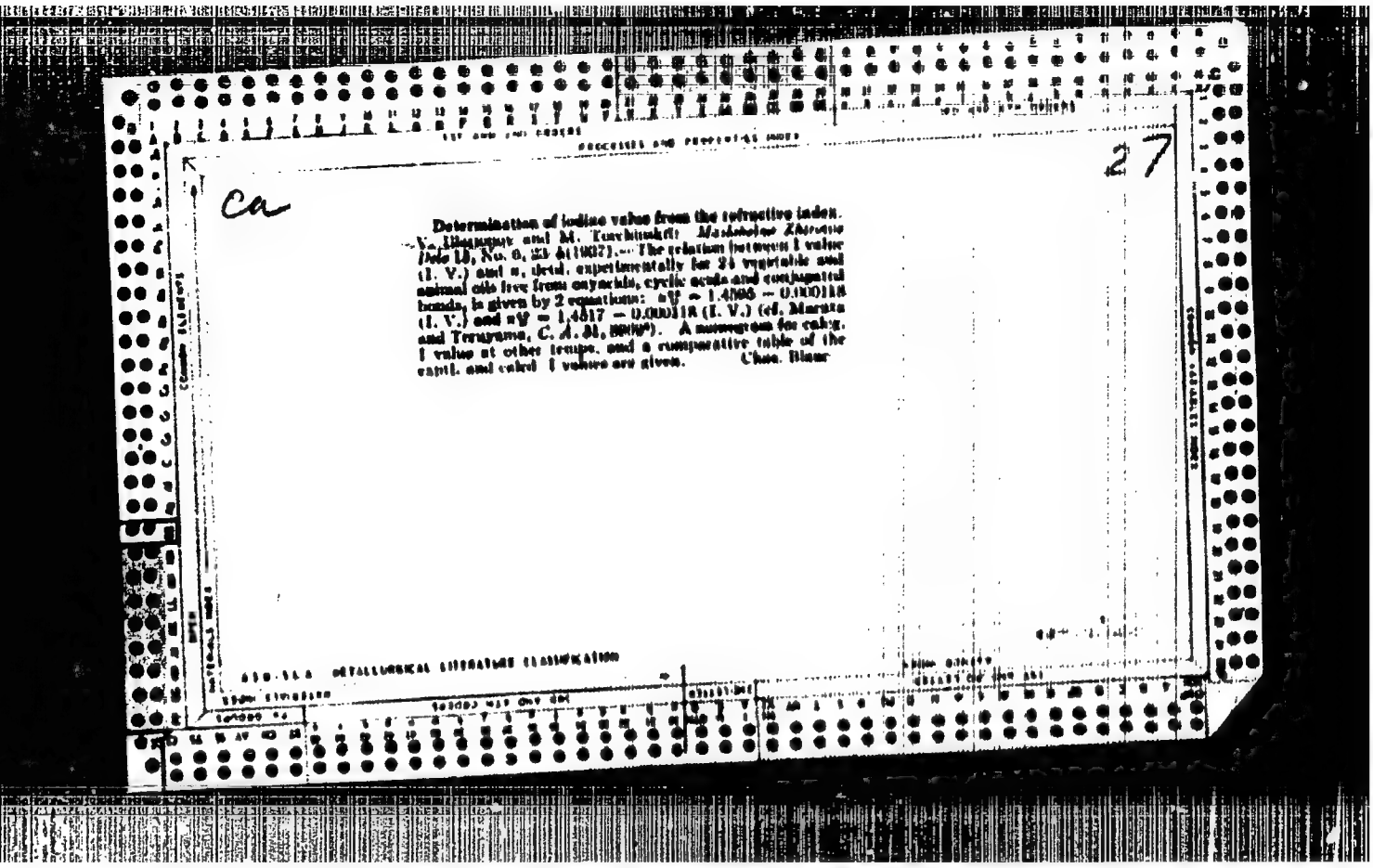
ASD-SLA METALLURGICAL LITERATURE CLASSIFICATION



CA

Changes of some of the physical constants of birch tar on prolonged storage with access to air. T. G. Kovalev and V. V. Illarionov. *J. Applied Chem.* (U. S. S. R.) 8, 691-3(1935). A comparison of birch-tar samples kept in open and in sealed Erlenmeyer flasks for various periods showed that the viscosity, content, decreased and the sp. gr. increased for samples left in contact with air. This change was caused by polymerization. A. A. B.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION



27

Ca

Determination of iodine value from the refractive index. V. Ilkaeyev and M. Tsvetkoff. *Maslobino Zhirovoe Delo* 13, No. 6, 23-4(1937).— The relation between I value (I. V.) and n, detd. experimentally for 24 vegetable and animal oils free from oxyacids, cyclic acids and conjugated bonds, is given by 2 equations: $n_D^{15} = 1.4705 - 0.000118$ (I. V.) and $n_D^{15} = 1.4617 - 0.000118$ (I. V.) (cf. Marusa and Terayama, C. A. 31, 8000⁹). A nomogram for calcg. I value at other temps. and a comparative table of the expti. and calcd I values are given. Chas. Blanc

BORESKOV, G. K.; ILLARIONOV, V.V.

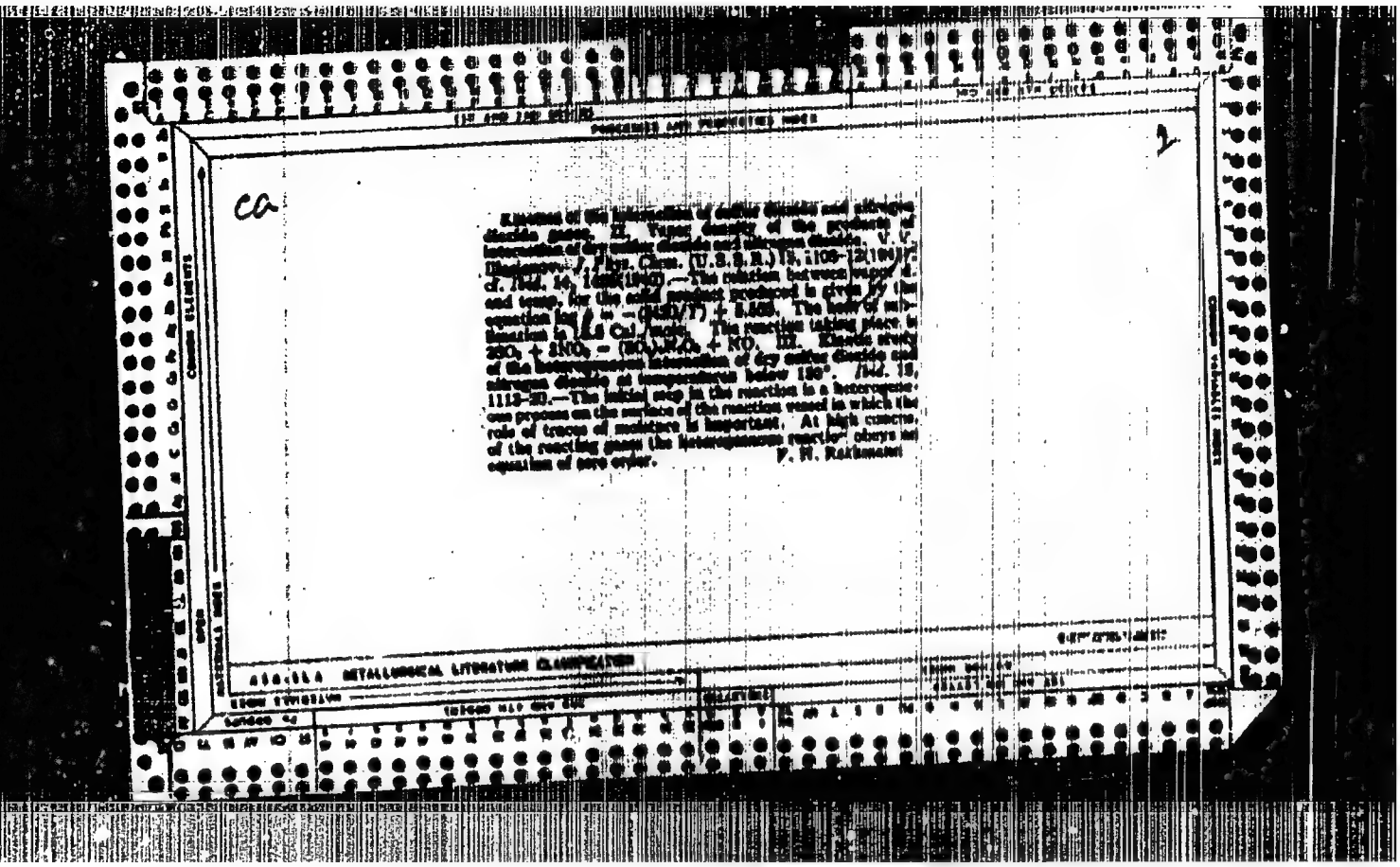
USSR

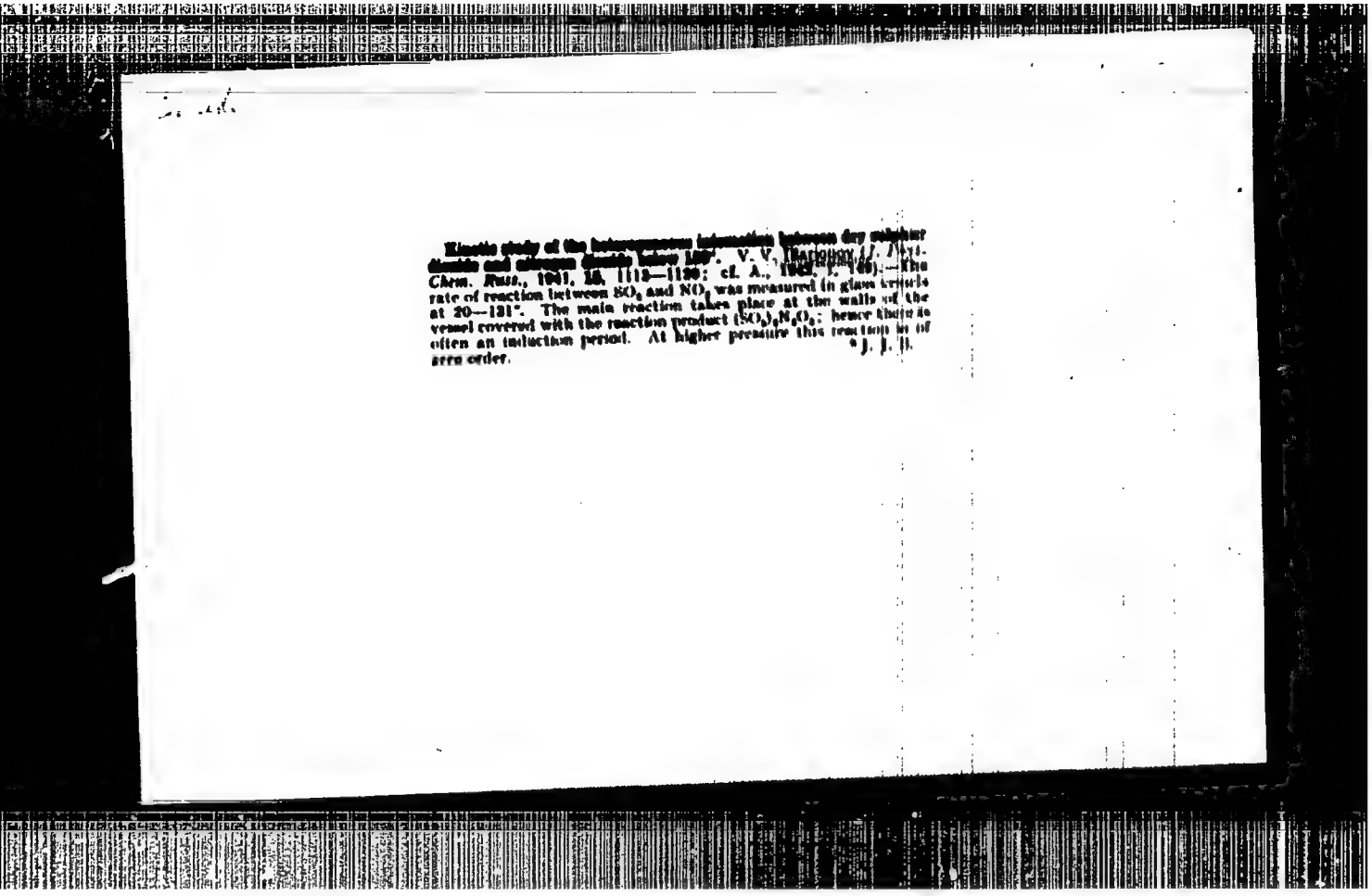
Moscow

Scientific-Research Institute Fertilizers and Insectofungicides, Laboratory of Catalysis, (-1940-).

"The Kinetics of the Interaction of Dry Sulfur Dioxide and Nitrogen Dioxide".

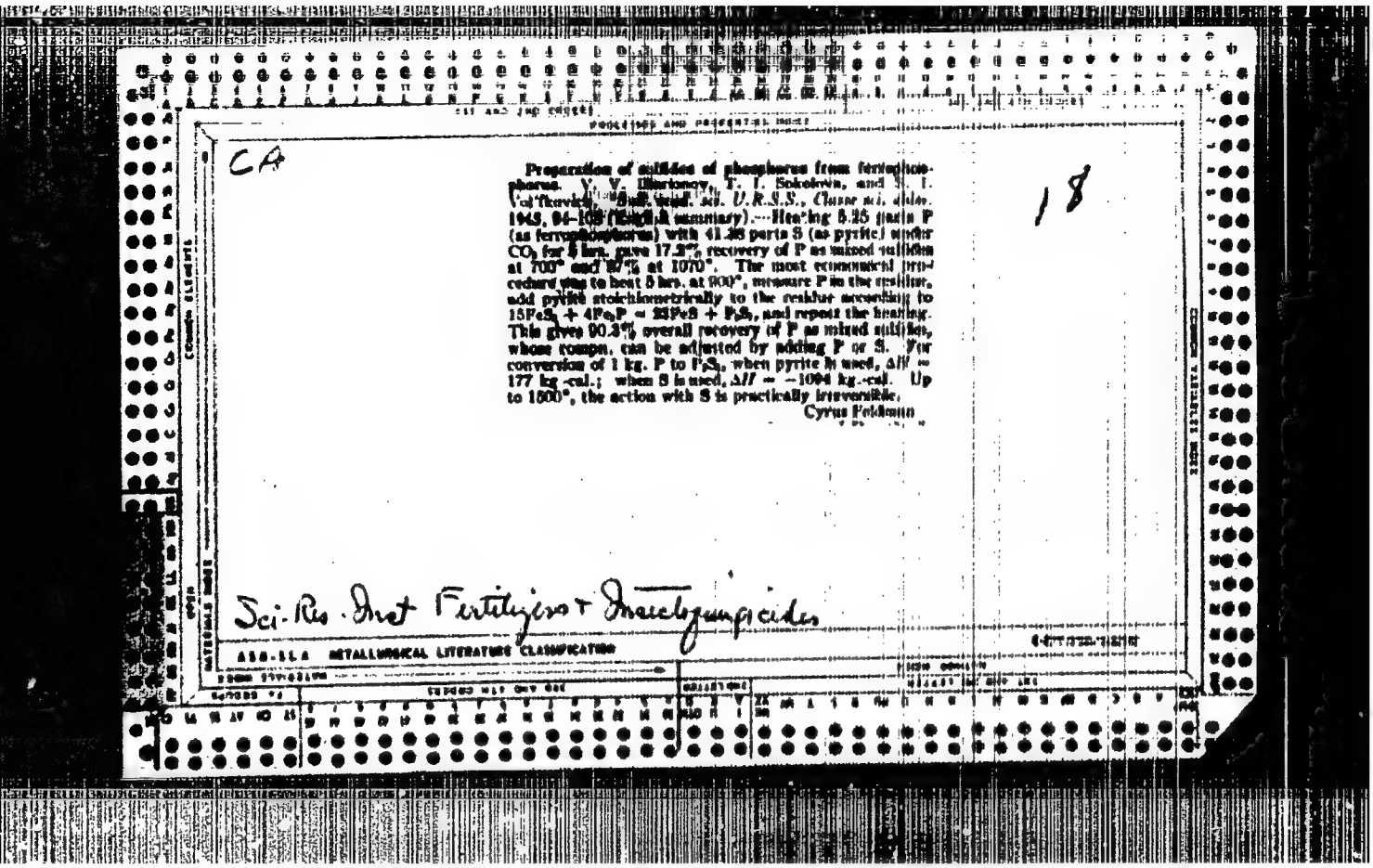
Zhur. Fiz. Khim., Vol. 14, No. 11.1940.





Kinetic study of the heterogeneous interaction between dry sulphur dioxide and nitrogen dioxide below 100°. V. V. Barzykin. *J. Phys. Chem. Russ.*, 1941, 15, 1113—1126; cf. A., 1942, I, 169).—The rate of reaction between SO_2 and NO_2 was measured in glass vessels at 20—131°. The main reaction takes place at the walls of the vessel covered with the reaction product $(SO_2)_2N_2O_5$; hence there is often an induction period. At higher pressure this reaction is of zero order.

J. J. H.



CA

18

Preparation of sulfides of phosphorus from ferrophosphorus. V. V. Illarionov, T. I. Sokolova, and V. I. [illegible], *Bull. Acad. Sci. U.R.S.S., Classe sci. chim.* 1943, 94–103 (French summary).—Heating 5.25 parts P (as ferrophosphorus) with 41.38 parts S (as pyrite) under CO_2 for 5 hrs. gave 17.2% recovery of P as mixed sulfides at 700° and 87% at 1070°. The most economical procedure was to heat 5 hrs. at 900°, measure P in the residue, add pyrite stoichiometrically to the residue according to $15FeS_2 + 4Fe_2P = 23FeS + P_4S_3$, and repeat the heating. This gives 90.3% overall recovery of P as mixed sulfides, whose compn. can be adjusted by adding P or S. For conversion of 1 kg. P to P_4S_3, when pyrite is used, ΔH = 177 kg.-cal.; when S is used, ΔH = −1094 kg.-cal. Up to 1500°, the action with S is practically irreversible.

Cyrus Feldman

Sci. Rec. Inst. Fertilizers + Insecticides

ASB-ILA METALLURGICAL LITERATURE CLASSIFICATION

ILLARIONOV, V.V.

Illarionov, V.V. "Kinetics of heterogeneous reaction of dry SO_2 and NO_2," (reference), Soobshch.oo nauch. rabotakh chlenov Vsesoyuz. khiml o-va im. Mendeleyeva, 1948, Issue 2, p. 12-13

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

58/49T44

USSR/Chemistry - Temperatures, High May 49
Chemistry - Kinetic Theory

"Kinetics of the Heterogeneous Interaction of Dry Sulfur Dioxide and Nitrogen Dioxide at High Temperatures, IV" V. V. Illarinov, NIUIF, Moscow 4 1/2 pp

"Zhur Fiz Khim" Vol XXIII, No 5

Graphs homogeneous and heterogeneous processes and gives a kinetic formula for heterogeneous reaction at 200°. Determines that the rate of the heterogeneous process under set experimental

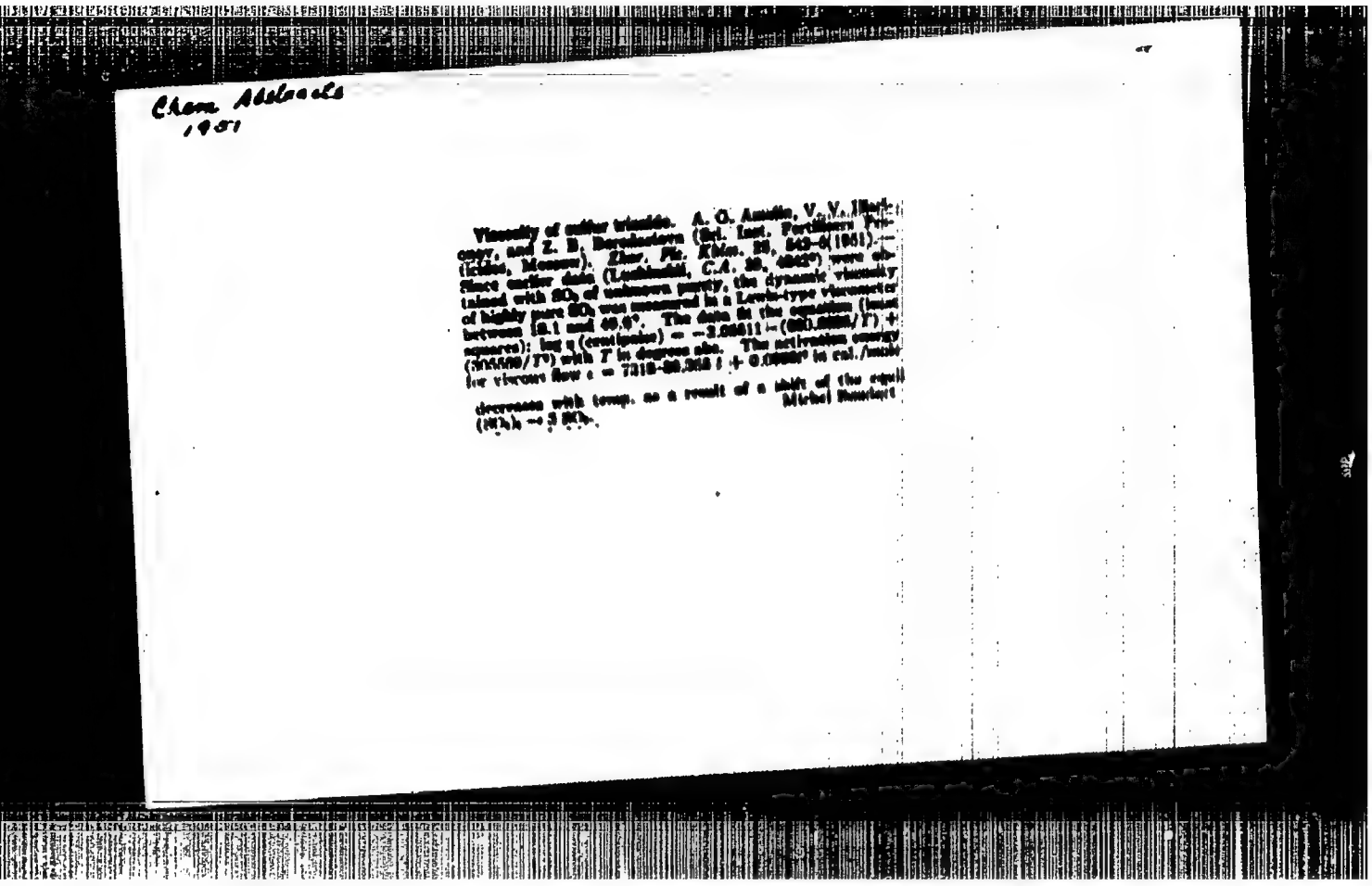
58/49T44

USSR/Chemistry - Temperatures, May 49
High (Contd)

conditions is proportional to the surface of the the container. Submitted 2 Jan 48.

58/49T44

ILLARINOV, V. V.



Chem Abstracts
1951

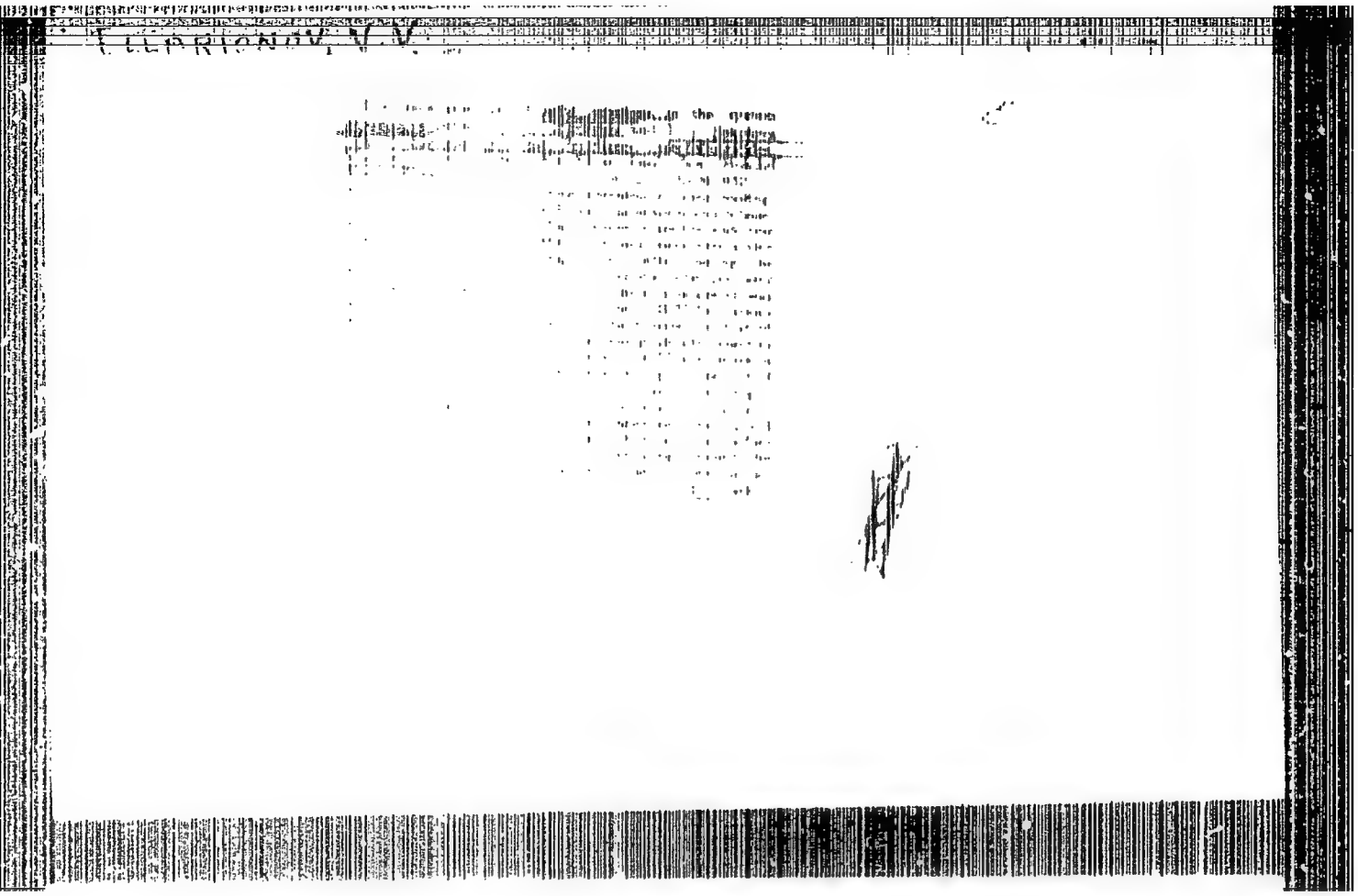
Viscosity of sulfur trioxide. A. G. Amatis, V. V. Ilkevich, and Z. B. Berukshtein (Sci. Inst. Fertilizers Pesticides, Moscow). *Zhur. Fiz. Khim.* 25, 543-6(1951).—Since earlier data (Lashkhidi, *C.A.* 30, 4042[9]) were obtained with SO_3 of unknown purity, the dynamic viscosity of highly pure SO_3 was measured in a Lewis-type viscometer between 18.1 and 60.6°. The data in the equation (least squares): $\log \eta$ (centipoise) = $-3.08411 + (980.3886/T) + (705000/T^2)$ with T in degrees abs. The activation energy for viscous flow ϵ = 7318-80.268 t + 0.0[illegible]° in cal./mole decreases with temp. as a result of a shift of the equil. $(SO_3)_3 \rightleftharpoons 3\,SO_3$.

Michel Boudart

ILLARIONOV, V.V.

Thermal method for the determination of equilibrium curves for the decomposition of solid solutions. Izv.Sekt.fiz.-khim.anal. 21:144-152 '52. (MLRA 6:7)

1. Nauchnyy institut po udibreniyam i insektofungisidam imeni Ya.V.Samoylova. (Solutions, Solid)



ILLARIONOV, V. V.

1. Physical Properties & Molecular Structure of Solutions etc.

Chemistry (3)

Separation of $POCl_3$ and PCl_5 mixtures. T. A. Sokolova, V. V. Illarionov, and S. I. Volfkovich, *J. appl. Chem., USSR*, 1952, **25**, 851—857).—The partial pressures of mixtures of $POCl_3$ and PCl_5 vary with the composition in accordance with Duhem's equation. In the Margules equations $p_1 = P_1 \exp[\alpha_1(1-x)^2 + \frac{1}{3}\alpha_2(1-x)^3]$ and $p_2 = P_2(1-x)\exp(\frac{1}{2}\beta_2 x^2 + \frac{1}{3}\beta_3 x^3)$ (1 refers to PCl_5 and 2 to $POCl_3$), the values of the constants are: $\alpha_2 = -3{\cdot}0$, $\alpha_3 = 1{\cdot}71$, $\beta_2 = 1{\cdot}29$, $\beta_3 = 30$. Plots of the partial and total pressures against composition are given for 27°, 47·75°, and 58°; a vapour-liquid equilibrium diagram is presented. R. C. MURRAY.

AFF 7-26-54

ILLARIONOV, V. V. m 101

USSR/Chemistry - Phosphate Fertilizers Production

Card 1/1

Authors : Vol'fkovich, S. I., Illarionov, V. V., and Remen, R. Ye.

Title : Investigation of the process of hydrothermal conversion of apatite

Periodical : Khim. prom. 4, 11-17 (203-209), June 1954

Abstract : Investigated the defluorination of fluoroapatite with steam. Found that by treating an apatite concentrate with steam at 1400°C in the presence of 2% of silicon dioxide, a fertilizer which contains up to 34-38% of phosphorus pentoxide and less than 0.1% of fluorine is obtained. This fertilizer is approximately twice as concentrated as Thomas slag. Ten USSR references, three since 1940; twenty-five foreign references. Three graphs and seven tables.

Institution : Scientific Research Institute of Fertilizers and Insectofungicides

Illarionov, V. V.

USSR/Chemistry - Reaction

Card 1/1 Pub. 151 - 4/36

Authors : Boreskov, G. K.; Illarionov, V. V.; Ozerov, R. P.; and Vil'dishova, E. V.

Title : Chemical reactions in V_2O_5-K_2SO_4 and V_2O_5-$K_2S_2O_7$ systems

Periodical : Zhur. ob. khim. 24/1, 23-29, Jan 1954

Abstract : Thermographic and x-ray investigations of V_2O_5-K_2SO_4 and V_2O_5-$K_2S_2O_7$ systems were carried out to determine their reaction characteristics. The formation, in the first of the two systems, of a compound close in its composition to $V_2O_5 \cdot K_2SO_4$ with a melting point of about 500° was discovered. The eutectic point between this compound and K_2SO_4 was established at below 430° which corresponds to an approximate V_2O_5 content of 0.4 mol fractions. The fusions with larger pyrosulfate contents in the second of the investigated systems were found to have low melting points and easily convert into glass when subjected to cooling. An exothermal effect during the heating of this system was observed at 275° and this is explained by the formation of a $V_2O_5 \cdot K_2S_2O_7$ compound. Eleven references: 3-USSR; 4-German; 2-Italian and 1-Scandinavian (1905-1950). Tables; graphs. Also 1-English reference.

Institution : Scientific Institute of Fertilizers and Insecticides

Submitted : May 26, 1953

ILLARIONOV, V. V.

USSR/Chemistry - Chemical technology

Card 1/1 : Pub. 22 - 37/46

Authors : Vol'fkovich, S. I., Academician; Illarionov, V. V.; and Renen, R. E.

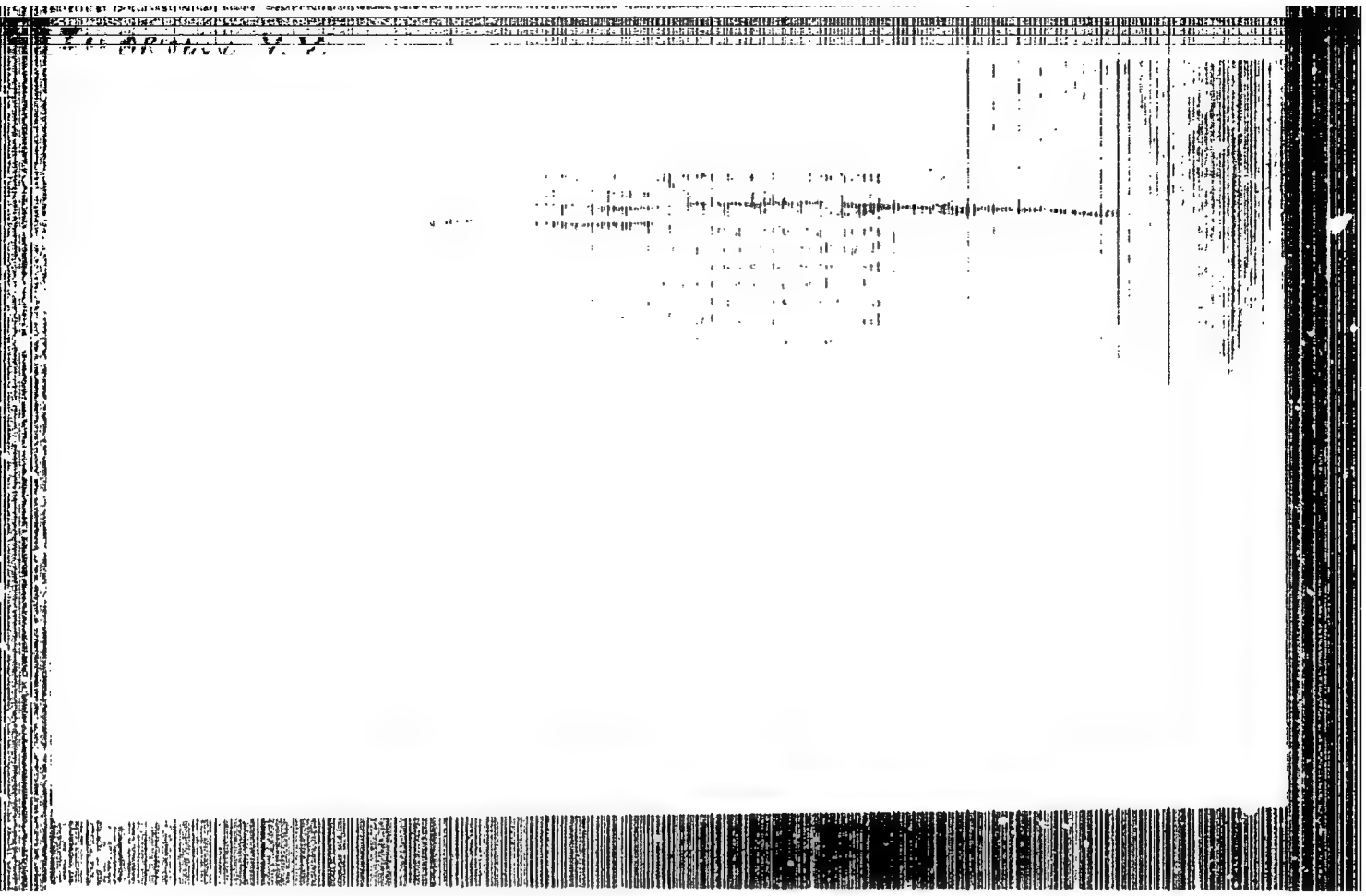
Title : Effect of silica and aluminum silicates on the reaction of apatite water vapor

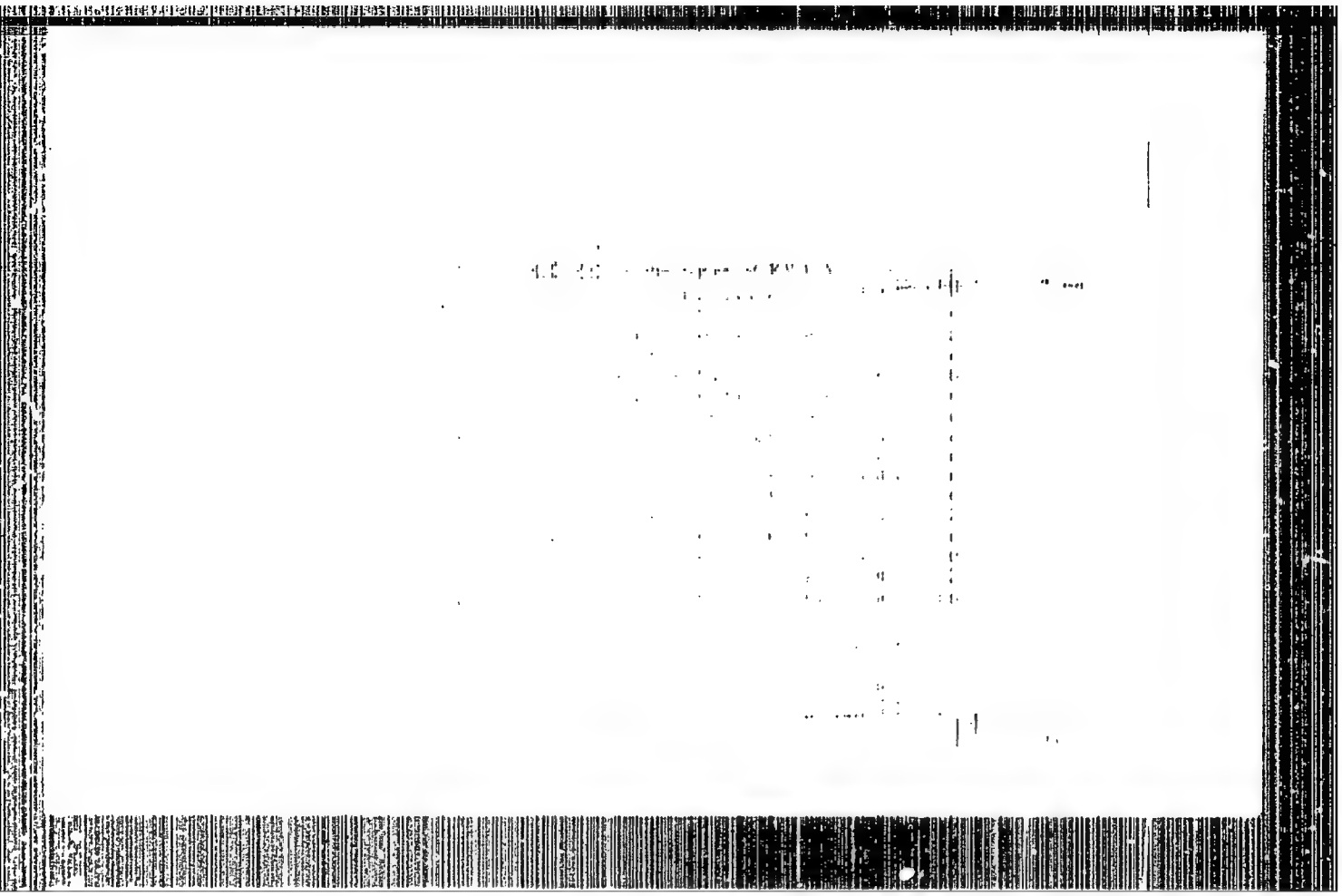
Periodical : Dok. AN SSSR 97/4, 715-718, Aug 1, 1954

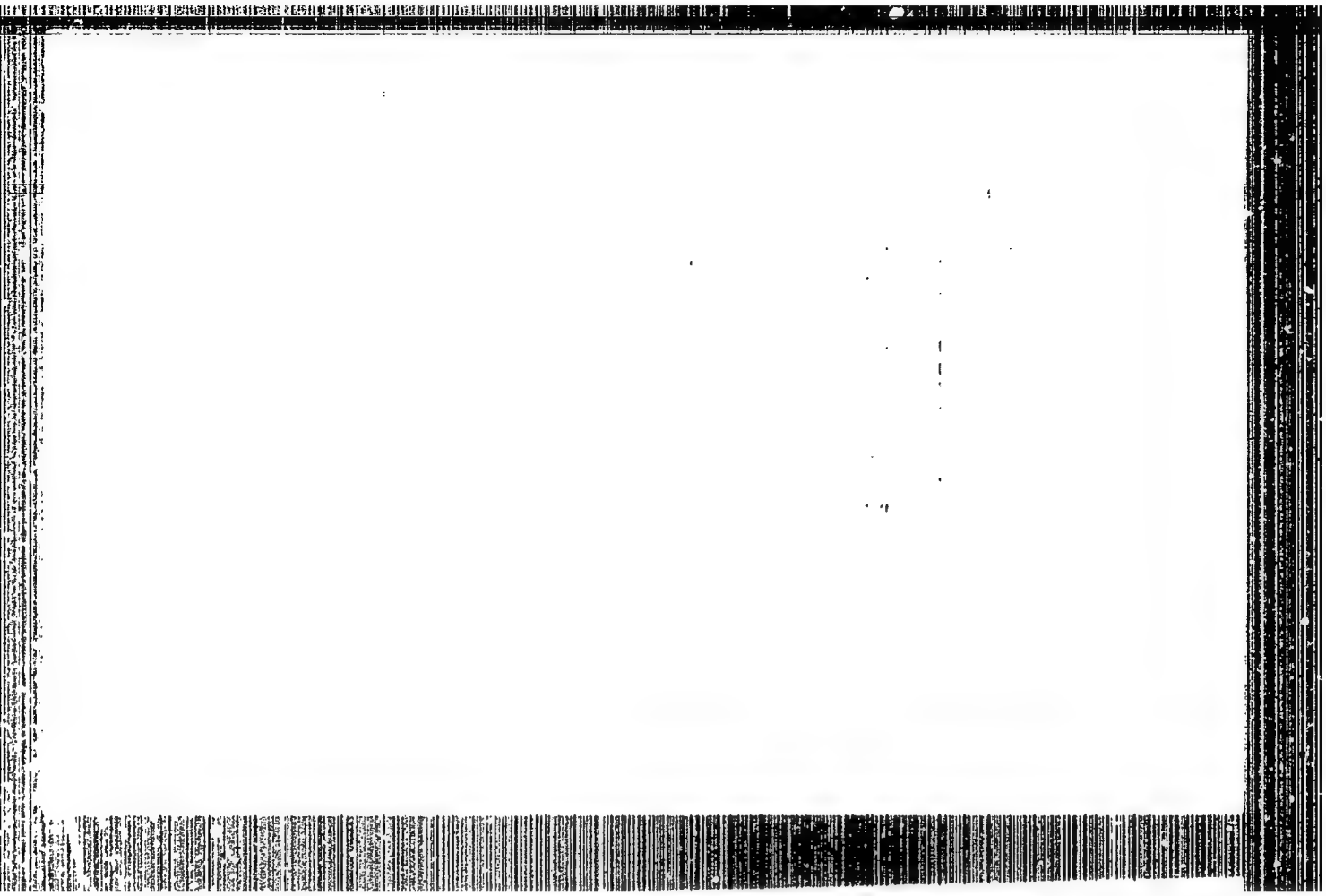
Abstract : The role of SiO_2 and $Al_2(SiO_3)_3$ in the $3Ca_3(PO_4)_2 \cdot CaF_2$ - water vapor reaction (hydro-thermal transformation of apatite into phosphorus fertilizer) was investigated. Results, obtained during the defluorination of synthetic fluoro-apatite with and without water vapor, are shown in tables. The effect of small silica and silicate amounts, on the thermodynamic variable composition phase potential, is explained. Ten references: 1-USSR; 2-German; 2-English; 4-USA and 1-French (1935-1949).

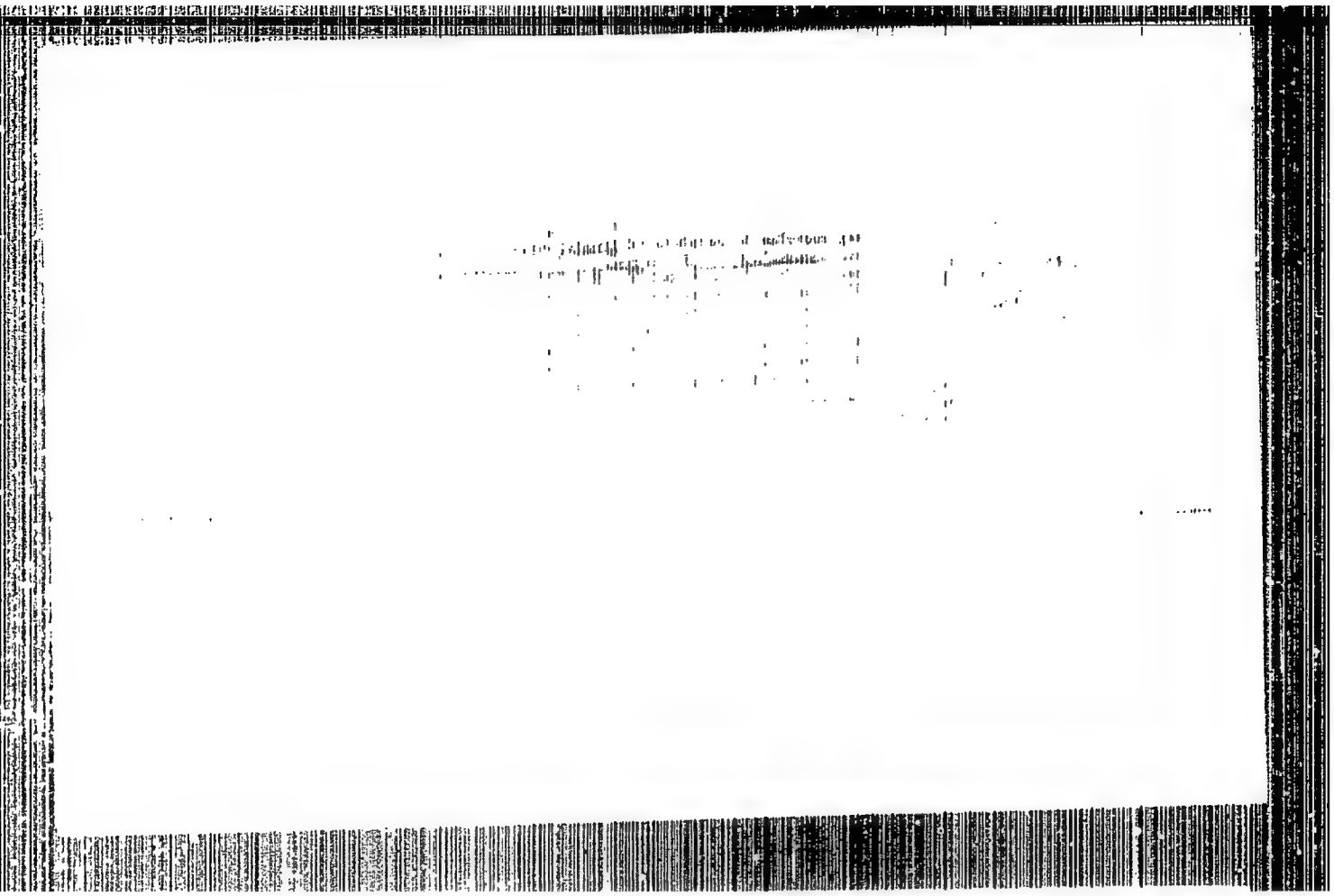
Institution : The Ya. V. Samoylov Scientific Institute for Fertilizers and Insecto-Fungicides

Submitted : May 28, 1954









APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R000618520004-5"

ILLARIONOV V. V.

78-3-32/35

AUTHORS: Illarionov, V. V., Ozerov, R. P. and Kil'dishova, Ye. V.

TITLE: Phase Diagram of V_2O_5- K_2O in the Region K_2O_5 - KVO_3. (O Diagramme sostoyaniya V_2O_5 - K_2O v oblasti K_2O_5 - KVO_3)

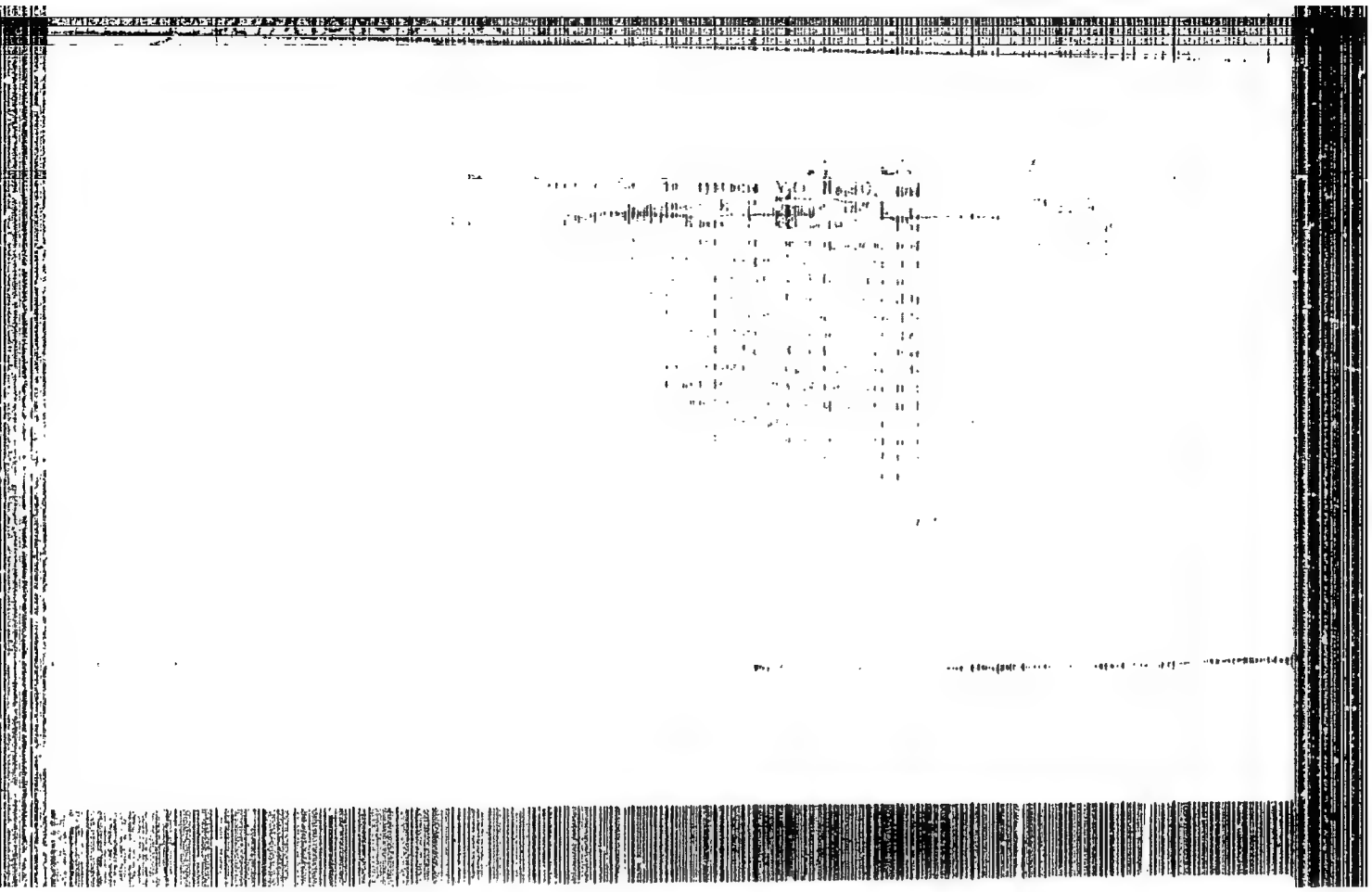
PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1957, Vol.II, Nr.3, p. 701. (USSR)

ABSTRACT: Differences and similarities between the authors' communication on this system and other relevant data are briefly discussed, with special reference to an article by F. Holzberg, A. Reisman, M. Berry and M. Berkenblit[1]. There are 4 references, 1 of which is Slavic.

SUBMITTED: November 26, 1956.

AVAILABLE: Library of Congress.

Card 1/1



Illarionov, V. V.

AUTHORS: Vol'fkovich, S. I., Illarionov, V. V., Remen, R. Ye. 64-8-5/19

TITLE: Influence of Magnesium on the Process of Hydrothermal Working of Phosphates (Vliyaniye magniya na protsess gidrotermicheskoy pererabotki fosfatov).

PERIODICAL: Khimicheskaya Promyshlennost', 1957, Nr 8, pp. 21-24 (USSR)

ABSTRACT: Since the influence of the magnesium on the process of the hydrothermal working of apatite and on the behavior of the phosphorites from Kara-Tau during this process is not quite clear, experiments were carried out here in order to clear the specific rôle of the magnesium. In order to detect the effectiveness of the magnesium influence in the ratio to calcium experiments were carried out in which the apatite concentrate was treated with water vapor at 1450° an hour long at various admixtures of silica, calcium- and magnesium oxides. On the strength of the experiments carried out following is detected:
1) The influence of the magnesium oxide on the hydrothermal process of the defluoration of apatite and the transformation of the latter into a manure suitable for plants occurs only at a corresponding silica content in the initial raw product

Card 1/3

or in the charging. Without silica magnesium oxide does not exercise an essential influence on the process.
2) The formation of easily meltable compounds with silica might be a probable explanation of the rôle of the magnesium. For this influences the acceleration of the diffusion processes, whereas on the other hand it facilitates the removal of fluorine in form of silicon fluoride. The latter is formed in consequence of an interaction between fluorine and the silica in the melt which is an ion state.
3) In the slow cooling of the vitrous melt of apatite, silica, and magnesium oxide in which the fluorine was conserved, fluoroapatite crystallizes. In order to obtain a useful phosphate form in the product, it must be hardened if fluorine exists in the melt. In the case of a fluorine separation from the melt tricalciumphosphate is deposited in crystalline form. This changes into a β-modification at 1100° enantiotropically which can be exploited only with difficulties by the plants, if it can be exploited at all. However, also here a hardening is necessary. Only in the case of an excess of CaO in the

charging there is no necessity of hardening the product in the melting and the subsequent cooling, where the calcium silicophosphates are separated in crystalline form without polymorphous transformations.
4) The apatite transformation process into a phosphorus manure which can be exploited by the plants takes place to a great extent without taking part of water vapors. In connection with that MgO and SiO_2 phosphatites contained in corresponding ratios can be worked to manures soluble in citric acid. This is realized by means of melting, without a special water vapor supply, analogous to the production of phosphates mixed with dolomite and molten, of phosphate ores and natural magnesium silicates. If the MgO- and Si_2O quantity in the phosphate ore does not correspond to the given prescription, the lacking reagents must be added to the phosphate. There are 6 tables, and 13 references, 10 of which are Slavic.

ASSOCIATION: Scientific Research Institute for Fertilizers, Insecticides, and Fungicides (NIUIF = nauchno issledovatel'skiy institut udobreniy i insektofungitsidov).

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ILLARIONOV, V.V.

VOL'FKOVICH, S.I.; ILLARIONOV, V.V.; REMEN, R.Ye.

Effect of magnesium on the hydrothermal processing of phosphates. Khim. prom. no.8:469-472 D '57. (MIRA 11:2)

1. Nauchnyy institut po udobreniyam i insektofungisidam im. Ya.V. Samoylova.

(Phosphates) (Magnesium)

20-5-29/60

AUTHOR ILLARIONOV,V.V. and LAPINA,L.M.

TITLE Association States of Selenium in the gas Phase. (Assotsiatsionnyye sostoyaniya selena v gazovoy faze.- Russian)

PERIODICAL Doklady Akademii Nauk SSSR 1957, Vol 114 Nr 5, pp 1021-1024 (U.S.S.R.)

ABSTRACT According to a wide-spread opinion, based upon one single work on the determination of vapor density, there exist two kinds of molecules in selenium vapors: Se_2 and Se_6 which are in equilibrium with one another. However, calculations are contradictory to test results. In order to solve this problem, the authors investigated these densities by statistical methods in a quartz apparatus. The selenium investigated did not contain more than 0,004 - 0,008 % of non-volatile admixtures and 0,001 - 0,003 % tellurium. The change of vaper pressure on rising temperature follows the vapor elasticity curve. After complete evaporation of the substance the vapor goes over to the domain of the unsaturated state. By the method of the smallest squares the dependence was deduced as the following formula:

$$\lg P_{MM} = -\frac{4987,3}{T} + 8,0783$$

CARD 1/4

Association States of Selenium in the gas Phase.

rising with increasing P at high temperatures. The decrease of the constants on a pressure drop indicates an intermediate step between Se_2 and Se_6. If one assumes that a decomposition

$$Se_6 \rightleftharpoons Se_4 \rightleftharpoons Se_2$$

takes place, the following is true: $(6-\nu)P:4 = P_2+P_4:2$ and $(\nu-2)\ P:4 = P_6+P_4:2$, where P_2, P_4 and P_6 representing the partial pressures of the corresponding associates. Therefore the constant is in reality: $K = \frac{P_2(2 + K'_4P_2)^2}{4(K'_4 + 2K'_6P_2)}$

with $K'_4 = P_4 : P_2^2$ and

$K'_6 = P_2^3$.

From this equation it follows that the constant shall increase with a P_a-increase proportional to the total pressure, which is the case here. It may easily be demonstrated that the constants would decrease if Se_8 were

CARD 3/4

Association States of Selenium in the Gas Phase.

present in the system beside Se_2 and Se_6. The constants of a 3-step decomposition describe only the 700-900°C isotherms satisfactorily. The constants of the 4-step decomposition describe all isotherms well. This agrees with the stability of the constants of simple decomposition

$$Se_6 \rightleftarrows Se_2 .$$

at temperatures of from 550 to 650°C, in which the influence of Se_4-molecules is compensated by that of Se_8. In the selection of constants of a 4-step decomposition (analogous to the decomposition of sulfur) the authors arbitrarily assumed independence of heat effects from temperature, which it is true, is not quite correct.

ASSOCIATION: "Ya. V. SAMOYLOV" Scientific institute for fertilizers and insecto-fungizides.
(Nauchnyy institut po udobreniyam i insektofungitsidam im. Ya. V. Samoyleva)

PRESENTED BY: S.I. VOL'FKOVICH, member of the Academy.
SUBMITTED: 24.12. 56.
AVAILABLE: Library of Congress.

CARD 4/4

ILLARIONOV, V.V.

AUTHORS: Lapina, L. M., Illarionov, V. V. 78-3-5-26/39

TITLE: On the Formation of Mixed Molecules of Sulfur-Selenium (Ob obrazovanii smeshanykh molekul sera-selen)

PERIODICAL: Zhurnal Neorganicheskoy Khimii, 1958, Vol 3, Nr 5, pp 1210-1213 (USSR)

ABSTRACT: The behavior of the mixture of unsaturated vapors of both sulfur and selenium in temperature intervals from 55o to 9oo°C was investigated by means of the static method. The investigation was carried out in a special device with a compensating manometer.
It was found that mixed molecules of sulfur and selenium are formed during this process. According to increasing temperature the mixed molecules become unstable and dissociate in pure components. The formation of mixed molecules of sulfur and selenium does not takes place by the exchange of two atoms of the initial components, but by individual atoms. Higher temperature favors the process of dissociation.
There are 2 figures, 11 tables and 17 references, 4 of which are Soviet.

Card 1/2

On the Formation of Mixed Molecules of Sulfur-Selenium

78-3-5-22/39

ASSOCIATION: Nauchnyy institut po udobreniyam i insektofungisidam im. Ya. V. Samoylova (Scientific Institute for Fertilizers, Insecticides and Fungicides imeni Ya.V. Samoylov

SUBMITTED: August 5, 1957

AVAILABLE: Library of Congress

1. Selenium-sulfur vapors--Molecular association 2. Molecular association--Test results

Card 2/2

32-24-4-22/67

AUTHORS: Illarionov, V.V., Ozerov, R.P.

TITLE: A Method for the Precise Determination of the Temperatures of Thermal Effects in Thermograms (Metod utochneniya temperatur teplovykh effektov na termogrammakh)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 4, pp. 434-435 (USSR)

ABSTRACT: The thermograms obtained according to the system developed by N.S. Kurnakov represent two curves plotted simultaneously: the ordinary- and the differential curve. The former is obtained from standard samples, in which a large number of secondary factors influences measuring accuracy. For the precise determination of the positions of thermal effects it is suggested to add an "active" standard substance with known thermal effect positions instead of the inert ballast substance to the second pyrometer vessel (according to Kurnakov). The addition of an active standard substance was already suggested by L.G. Berg and Ye.Ya.Rode (Ref 1). In this way several additional inversion effects become noticeable on the differential curve, the majority of which is known for the standard samples, so that in this way a calibration

Card 1/2

A Method for the Precise Determination of the Temperatures of Thermal Effects in Thermograms

of recordings is possible. Besides this no change of the normal curve takes place, and in the case that a superposition of effect should be unavoidable, two thermograms with inert-, and active substance can be made. If possible such standard substances should be used of which the position of effects is known with the greatest accuracy; on the other hand, it is possible, by the method described, to determine also relative temperatures with the greatest accuracy, which are frequently just as important as absolute temperature. Thermograms for investigations carried out on K_2SO_4 and KPO_3 by using an eutectic mixture of Na_2 + NaCl as an active substance are given. When carrying out determination in KPO_3-V_2O_5-systems it was found that the error limit amounts to $\pm$ 1-2°, whereas it is four times this amount when working with an inert substance. There is 1 figure.

ASSOCIATION: Nauchnyy institut po udobreniyam i insektofungisidam im. Ya.V. Samoylova (Scientific Institute for Fertilizers and Insecti- and Fungicides imeni Ya.V. Samoylov)

1. Temperature--Recording devices 2. Thermographs--Errors
3. Thermographs--Calibration

S/078/60/005/012/012/016
B017/B064

AUTHORS: Illarionov, V. V., Ozerov, R. P., Kil'disheva, Ye. V.

TITLE: The Phase Diagram of the System V_2O_5 - KPO_3

PERIODICAL: Zhurnal neorganicheskoy khimii, 1960, Vol. 5, No. 12, pp. 2802-2803

TEXT: The section of the three-component phase diagram of the system V_2O_5 - K_2O - P_2O_5 along the KPO_3 - V_2O_5 line was investigated. The system was thermographically investigated as well as by X-ray analysis, and on the basis of the results obtained the phase diagram was drawn. The formation of the two compounds $KPO_3 \cdot V_2O_5$ (I) and $4KPO_3 \cdot V_2O_5$ (II) was found in the reaction of the solid phases KPO_3 and V_2O_5 at 300° and 380°C. The first compound is brown, and melts at 350°C. The melt of this compound becomes vitreous when cooling down. The second compound is light-green, and melts at 846°C. In contrast to the former, this compound shows no tendency to vitrification. The X-ray pictures of these compounds are compiled in a table. There are 1 figure, 1 table, and 5 Soviet references.

Card 1/2

5.1320,5.4110

78502
SOV/80-33-3-3/47

AUTHORS: Vol'fkovich, S. I., Illarionov, V. V., Ozerov, R. P., Remen, R. Ye.

TITLE: Concerning the Relationship Between the Composition and Structure of Phosphates in the System $CaO-P_2O_5-SiO_2$ and Their Digestibility by Plants

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 3, pp 524-532 (USSR)

ABSTRACT: Hydrothermal treatment of natural apatite, with the consequent loss of F, produces a silicophosphate phase of variable composition consisting of α-tricalcium phosphate as a base and including SiO_4 and SiO_3. The phosphorites, containing large amounts of silica and calcium or magnesium carbonates, difficultly separable or not at all by ore processing, elevate the mp relative to that of apatite, and make hydrothermal treatment impossible without addition of silica.

Card 1/5

Consequently, new phases of silicophosphates with lower P_2O_5 content result. Seven phases (Fig. 2) were established, of which five had varying compositions with α-tricalcium phosphate or tetracalcium phosphate as the principal constituents. The authors sought to establish the structure of each phase and its relation to digestibility by plants. The X-ray photographs were taken with Cu-radiation and RKU-8 camera. The specimens proved to contain no thomasite. The same seven phases could be produced by adding limestone and silica to apatite before hydrothermal treatment. Solubility of each phase was examined by shaking 2 g of it with 300 ml distilled water at 20 + 3° C for 8 hr, letting it stand overnight, shaking the filtered-out residue with another 300 ml distilled water, and so on for 10 consecutive days. Another 2 g of each specimen was boiled with distilled water for 8 hr, left sealed overnight, filtered, and the residue treated in a similar way for

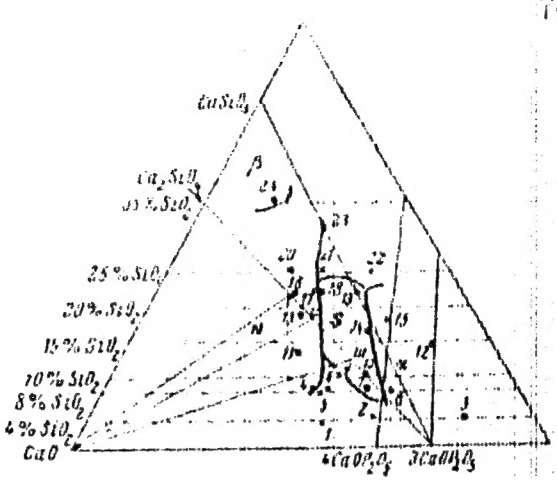

Fig. 2. Phase diagram for $CaO-P_2O_5-SiO_2$ system. (I) $9CaO \cdot P_2O_5 \cdot 3SiO_2$; (II) $7CaO \cdot P_2O_5 \cdot 2SiO_2$; (III) $5CaO \cdot P_2O_5 \cdot SiO_2$; (N) nagelschmittite; (S) silicadarnotite; (α) α -$Ca_3P_2O_8$; (β) β -Ca_2SiO_4; heavy dots = homogeneous, x = heterogeneous specimens.

Card 3/5